



EXTRA: From Europe - Amiga's New A600!



Amazing COMPUTING™ AMIGA

Your Original AMIGA® Monthly Resource

For The Commodore

Volume 7 No. 5 May 1992

US \$3.95 Canada \$4.95

UK £2.50

Desktop Publishing

Reviews:

- Distant Suns 4.0
- AdIDE/40
- The Big Three in DTP
- Mlfont and Mloutline
- Pelican Press
- 600 Amiga Fonts

In This Issue:

- Reader's Choice Awards
- Printers
- Fonts & AmigaDOS 2.04
- Selecting and Using Structured Clip Art

PLUS!

Build an Amiga MIDI Interface!



Welcome to the Future.

Soft-Logik would like to congratulate Gold Disk on adding features to Pro Page 3.0. Of course, it still doesn't compare to PageStream 2.2, the Experts' Choice.



Congratulations, Gold Disk, on adding improved typographic precision and an Undo option to Professional Page 3.0. Of course, PageStream has had Undo since version 1.0 and its type scaling is still 12.5 times more precise. The five new AGFA Compugraphic fonts included in ProPage 3.0 bring your total to 7, still short of the 10 we give our users.

We're sure ProPage users will appreciate the new ProWrite and Excellence text import filters; PageStream users have been enjoying them for years. And the tiling feature you've added in 3.0 will allow your users to make those banners and posters PageStream users have been pasting on walls everywhere.

The most impressive feature in 3.0 has to be the links to ProDraw and Article Editor. Your "hotlinking" feature is a closed and proprietary system. Our HotLinks is a standard protocol which any company can support. Of course, this isn't really a fair comparison, because ProPage's links cannot match HotLinks' automatic data transfer, real-time multiple edition updating, and edition management utilities.

Cool Programs for a Hot Computer

Soft-Logik Publishing is proud to announce HotLinks Editions. HotLinks Editions combines BME, PageLiner and HotLinks into an affordable package. BME is a bitmap editor for touching up pictures and photographs. PageLiner is a feature-laden text processor with spell checking and formatting tags. HotLinks is the new Amiga standard for data exchange.

Multitasking is Cool, but HotLinks is Hot

HotLinks takes Amiga multitasking into the future. An open standard available to all companies, it allows you to exchange text, graphics and other data between applications in real-time. Imagine having all copies of your corporate logo updated automatically in your PageStream document when you make changes in BME. PageStream doesn't even have to be loaded. The next time you load a document containing a copy of the logo, HotLinks will update it automatically.

This might be the future, but it's available now. PageStream 2.2 is just \$299.95. HotLinks Editions is \$99.95. If you would like your other software to be HotLinks compatible, just ask its publishers. We'll help them include HotLinks in their next release.

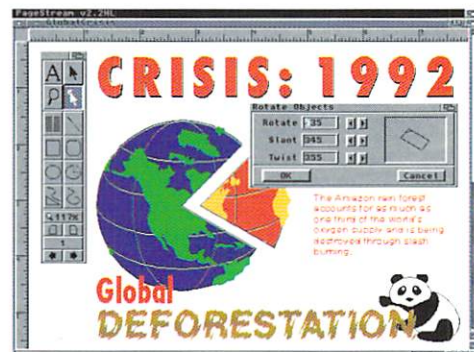
PageStream 2.2 and HotLinks Editions are *the* publishing solution.

HotLinks >>>

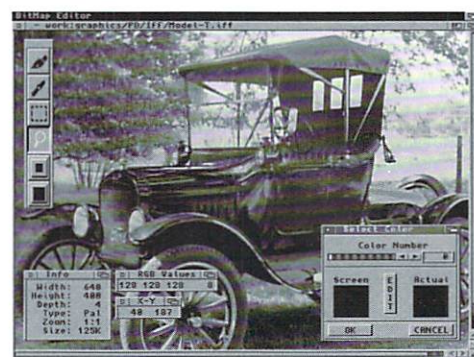
Soft-Logik Publishing Corporation  We give you the tools to dream. 800-829-8608

PageStream, BME and PageLiner are registered trademarks or trademarks of Soft-Logik Publishing Corporation. The HotLinks name is reserved for use on the Amiga for software compatible with the HotLinks standard set by Soft-Logik Publishing. Compugraphic is a registered trademark of AGFA Compugraphic. Amiga is a registered trademark of Commodore Business Machines. Professional Page, Professional Draw and Article Editor are registered trademarks of Gold Disk Inc.

Circle 109 on Reader Service card.



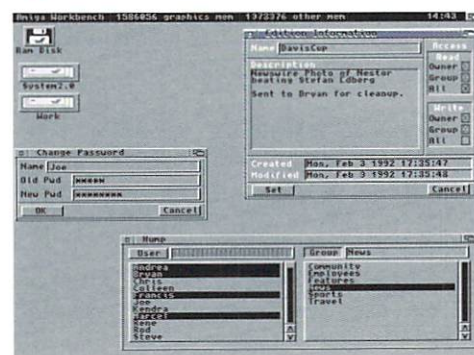
PageStream 2.2



BME - The Amiga BitMap Editor



PageLiner



HotLinks



50 or 40MHz '030...

32-Bit RAM EXPANSION... DMA SCSI CONTROLLER... HARD-DISK-CARD & MORE...

Our new
G-Force
030 Combo
board for the
A2000 is truly
in a class of its
own and has no
equal. It's equivalent to four expansion

boards in a single slot! With its '030 Central Processor and 68882 Floating Point Processor (both running at a clock speed of up to 50MHz), 4 to 16MB RAM and on-board DMA SCSI Controller, the G-Force 030 Combo gives you more performance and control for the money than any other single board out there.

G-FORCE 030 COMBO THE MUST HAVE A2000 ADD-ON

Give your Amiga a massive memory boost...

Make your Amiga faster than a speeding bullet...

Use your Amiga with virtually every and any SCSI device on the market — from CD-ROM drives, to Magneto-Optical and tape-based storage devices...

Get all the storage capacity and performance of the latest SCSI hard drives — with our optional hard drive mounting bracket you can even turn it into a 240MB Quantum Hard-Disk-Card...

Save lots of time working with desktop publishing, animation, ray tracing and modeling programs...

Speed up all your New Tek Video Toaster™ applications. A perfect match...

Plus, the G-Force 030 Combo plugs into your A2000's CPU slot, leaving all your normal expansion slots open and free for other uses!

IT'S A COMPLETE SYSTEM
ON A SINGLE BOARD



G-FORCE 030-50/4 with optional "Hard-Disk-Card" Conversion Kit

It's no wonder we say the G-FORCE 030 Combo is the **Must Have Add-on** for your A2000.

IT'S A COMPLETE SYSTEM ON A SINGLE BOARD

Just look what you get from this workhorse, powerhouse:

- 50MHz 68030 or 40MHz 68EC030 CPU. Whichever one you choose your A2000 will out-perform even the latest A3000 systems.
- 50MHz or 40MHz 68882 FPU, math processor.
- 4MB of high performance, 60ns, 32-bit wide RAM expansion. User upgradeable to 16MB with easy-to-install 4MB SIMM modules.
- High Performance, Auto-booting, DMA SCSI controller which can DMA directly to/from the full 16MB range of 32-bit wide RAM — just like the A3000!
- SCSI connectors for connecting both internal and external SCSI peripherals.
- Hardware support for mapping the A2000 Kickstart ROM into the high-speed 32-bit wide on-board RAM. It's like caching the entire operating system!
- Icon-based, Software Switchable, 68000 Fallback mode.
- Converts to Hard-Disk-Card with Optional Hard Drive Mounting bracket.

G-FORCE™ 030 COMBO

AND FOR THE MUST HAVE OF ALL HARD DISK CARDS...

Our optional "Hard-Disk-Card" Conversion Kit turns your G-Force 030 Combo board into a Hard-Disk-Card — the drive mounts directly on the Combo board itself — even saving you a peripheral bay! For real price/performance ask your dealer about our factory installed 120MB or 240MB Quantum hard drive bundles - look for our seal! Not only do you get a great price but with our new two-year warranty, you will get the piece of mind you deserve.

GVP

GREAT VALLEY PRODUCTS INC.
600 Clark Avenue, King of Prussia, PA 19406

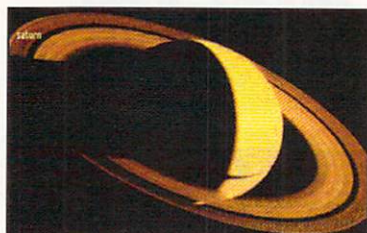
For more information or your nearest GVP dealer, call today. Dealer inquiries welcome.
Tel. (215) 337-8770 • FAX (215) 337-9922

G-Force 030 is a registered trademark of Great Valley Products Inc.
Amiga is a registered trademark of Commodore-Amiga, Inc.
All other trademarks are the property of their respective owners.
© 1991 Great Valley Products Inc.



Cover photograph by
Rick Hess

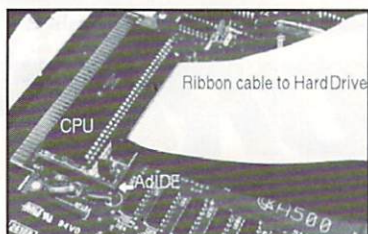
CONTENTS



Distant Suns 4.0
from Virtual Reality Laboratories



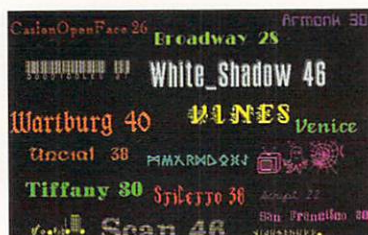
AMI-BACK hard drive backup utility
from Moonlighter Software



AdIDE/40 Amiga 500 Hard Drive Kit
from ICD, Incorporated



Pelican Press
from Queue



600 Amiga Fonts
from Allied Studios

Reviews

22 SecureKey

by Richard Mataka

Don't let those worms and moles set eyes on your private, personal data!

23 Distant Suns 4.0

by Jeff James

Gaze at distant stars from the comfort of your computer chair.

26 Ami-Back

by Jeff James

Schedule backup of data on a regular basis; also schedule incremental backups.

34 AdIDE/40 Amiga 500 Hard Drive Kit

by Merrill Callaway

Are you looking for a space-saving way of adding a hard drive to your A500?

47 The Big Three in DTP, Part 2

by Richard Mataka

Once again, Rich dissects three leading DTP programs and their modules.

55 Mifont and Mloutline

by Richard Mataka

Check out what these utility programs can do to enhance your Amiga fonts.

57 Pelican Press

by Jeff James

You don't have to be a 10-year-old kid to enjoy this entry-level DTP package.

61 600 Amiga Fonts

by Morton A. Kevelson

What is the ancestor of Allied Studio's 600 Amiga Fonts? Besides giving the answer, Morton also sheds light, in two related sidebars, on the nature of bit-mapped fonts and getting high quality printouts with Prowrite.

In This Issue

7 Reader's Choice Ballot

Make your choices known! AC offers you the chance to pick the best Amiga products and Amiga vendors of the year.

42 Printers

by Dan Weiss

Learn the technologies used to create images among the various types of printers.

53 Fonts & AmigaDOS 2.04

by Morton A. Kevelson

The latest release of the Amiga operating system allows you the choice of new font structures.

59 Selecting and Using Structured Clip Art

by Jason R. Hardy

Learn how to choose structured clip art, the preferred format for most DTP applications.

Projects

18 Installing the ATonce-Plus

by Richard Mataka

Step-by-step, the author explains the installation of this board and other peripherals, along with some cautionary notes.

30 Building an Amiga MIDI Interface

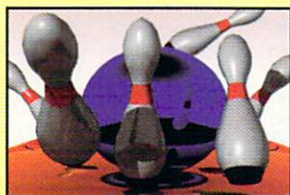
by John Iovine

For this month's project, John carefully guides you through the steps in building an affordable Musical Instrument Digital Interface.

This May issue focuses on desktop publishing, along with it's allied topics - structured and bit-mapped clip art, font packages, and printer technology. In addition, you can read reviews on a passel of new games in "Diversions."



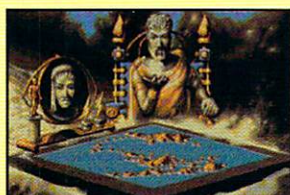
SWAP
from Titus Software Corp.



24-bit program using **CanDo** from **INOvatronics** and the **Firecracker 24** board from **Impulse**



A-Sound Elite
from **Deltaware Products**



Hot Tips offers you a chance to win **Electronic Arts'** hottest new game, **Populous II**.



Home Alone
from **Capstone**

Columns

10 New Products And Other Neat Stuff

by *Timothy Duarte*
Check out the latest Amiga products, fresh from the oven!

38 Bug Bytes

by *John Steiner*
Some *Digi-Paint 3* users might want to consider an upgrade; *Phaser 3.0* users should now contact *Psygnosis* for support.

66 ARexx

by *Merrill Callaway*
Use a *PostScript* driver for a text editor without using *Preferences*!

72 The Video Slot

by *Frank McMahon*
This month's column explains real-time 24-bit sequencing and it's applications.

74 Medley

by *Phil Saunders*
Departing from his usual music commentary, *Phil* reviews *A-Sound Elite*.

76 Roomers

by *The Bandito*
Will *Apple* be the *Amiga's* big challenger in the home computer market?

81 Hot Tips

Allow yourself an unfair advantage in playing *Batman: The Movie*, *Defender of the Crown*, and *Shadow of the Beast*.

82 Diversions

Use strategy and combat skills in *The Perfect General*, or hop on your 500cc motorcycle in *Team Suzuki*.

87 PD Serendipity

Quick utilities, games, educational projects, and productivity programs highlight the latest *Fred Fish* disks.

89 cli directory

by *Keith Cameron*
This month's column continues to show the power at your fingertips when using the *Command Line Interface*.

Departments

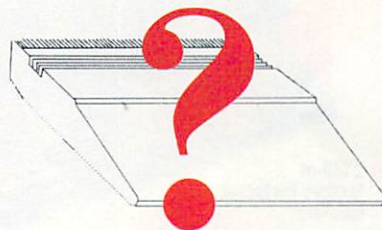
Editorial..... 6

List of Advertisers..... 80

Feedback..... 92

Public Domain Software... 94

And Furthermore..... 96



Latest news from Europe!
Phil South, our correspondent from the UK fills us in on the *A600* release for the European *Amiga* market.

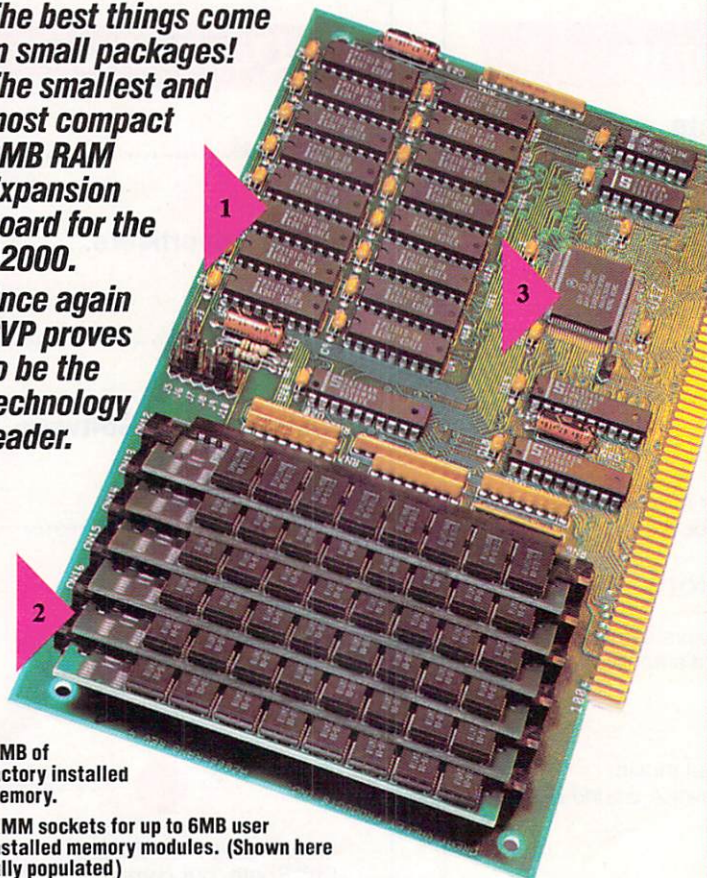
Vote
AMIGA '92

See the Reader's Choice Ballot beginning on page 7.

THE FINAL WORD IN RAM EXPANSION FOR THE A2000®

**The best things come
in small packages!
The smallest and
most compact
8MB RAM
Expansion
board for the
A2000.**

**Once again
GVP proves
to be the
technology
leader.**



- 1** 2 MB of factory installed memory.
- 2** SIMM sockets for up to 6MB user installed memory modules. (Shown here fully populated)
- 3** GVP's VLSI custom chip allows dramatic decrease in number of parts required.

Features:

- ✓ 2MB of factory installed RAM, expandable to 8MB.
- ✓ All memory is fully Auto-Configured.
- ✓ Also supports a 6MB configuration for maximum memory utilization for Commodore's A2088/2286 "bridgeboard" users.
- ✓ Uses easy-to-install, industry standard, SIMM memory modules. No more bent pins or incorrectly inserted DRAM chips!
- ✓ GVP's state-of-the-art VLSI technology has reduced an 8MB RAM expansion board to a "half-card"! Lower parts count also means highest possible reliability and life expectancy.

GVP

GREAT VALLEY PRODUCTS INC.
600 Clark Avenue, King of Prussia, PA 19406

**For more information or your nearest GVP
dealer, call today. Dealer inquiries welcome.
Tel. (215) 337-8770 • FAX (215) 337-9922**

Amiga is a registered trademark of Commodore-Amiga, Inc.
Circle 124 on Reader Service card.

Amazing AMIGA

COMPUTING

*Amazing Computing For The
Commodore AMIGA™*

ADMINISTRATION

Publisher:	Joyce Hicks
Assistant Publisher:	Robert J. Hicks
Administrative Asst.:	Donna Viveiros
Circulation Manager:	Doris Gamble
Asst. Circulation:	Traci Desmarais
Traffic Manager:	Robert Gamble
Marketing Manager:	Ernest P. Viveiros Sr.

EDITORIAL

Managing Editor:	Don Hicks
Associate Editor:	Jeffrey Gamble
Hardware Editor:	Ernest P. Viveiros Sr.
Senior Copy Editor:	Paul L. Larivée
Copy Editor:	Timothy Duarte
Video Consultant:	Frank McMahon
Art Consultant:	Perry Kivolowitz
Art Director:	Richard Hess
Photographer:	Paul Michael
Illustrator:	Brian Fox
Editorial Assistant:	Torrey Adams
Production Assistant:	Valerie Gamble

ADVERTISING

Advertising Manager: Wayne Arruda

1-508-678-4200, 1-800-345-3360, FAX 1-503-675-6002

SPECIAL THANKS TO:

Bob at Riverside Art, Ltd.
Swansea One Hour Photo
Mach 1 Photo

Amazing Computing For The Commodore Amiga™ (ISSN 1053-4547) is published monthly by PiM Publications, Inc., Currant Road, P.O. Box 2140, Fall River, MA 02722-2140, Phone 1-508-678-4200, 1-800-345-3360, and FAX 1-508-675-6002.

U.S. subscription rates \$29.95 for one year, \$46.00, two years. Subscriptions outside the U.S. are as follows: Canada & Mexico \$38.95 (U.S. funds) one year only; Foreign Surface \$49.97. All payments must be in U.S. funds on a U.S. bank. Due to erratic postal changes, all foreign rates are one-year only.

Second-Class Postage paid at Fall River, MA 02722 and additional mailing offices.

POSTMASTER: Send address changes to PiM Publications Inc., P.O. Box 2140, Fall River, MA 02722-2140. Printed in the U.S.A. Entire contents copyright © 1992 by PiM Publications, Inc. All rights reserved. No part of this publication may be reproduced without written permission from PiM Publications, Inc..

Additional First Class or Air Mail rates available upon request. PiM Publications, Inc. maintains the right to refuse any advertising.

PiM Publications Inc. is not obligated to return unsolicited materials. All requested returns must be received with a self-addressed stamped mailer.

Send article submissions in both manuscript and disk format with your name, address, telephone, and Social Security Number on each to the Associate Editor. Requests for Author's Guides should be directed to the address listed above.

AMIGA™ is a registered trademark of Commodore-Amiga, Inc.,
Commodore Business Machines, International

Distributed in the U.S. & Canada by
International Periodical Distributors
674 Via de la Valle, Ste 204, Solana Beach, CA 92075
&
Ingram Periodicals Inc.
1226 Heil Quaker Blvd., La Verne TN 37086

Distributors to the U.K. News Trade - DIAMOND MAGAZINE DISTRIBUTION LTD
Hastings, England
Distributors to the Computer Trade - WORLDWIDE MAGAZINE DISTRIBUTION LTD
Unit 19, Chelmsley Wood Ind. Estate,
Waterloo Avenue, Birmingham B37 6GD
Tel 021 788 3112 Fax 021 788 1272

YOU'LL BUY IMPACT VISION 24 FOR ONE VIDEO NEED AND FIND YOU NEED IT FOR EVERYTHING VIDEO



If you're into video, IMPACT VISION-24 is truly a dream come true for your A3000 or A2000. It is the first multi-function peripheral specifically designed for the A3000's video expansion slot.

With the optional A2000 genlock slot adaptor kit, it also perfectly complements and enhances the A2000.

Check out these features, all packed on a single Amiga® expansion board!



► Separate Composite and Component Video (RGB+Sync) Genlocks.

RGB genlock operates in the digital domain, for digitally perfect

production studio quality mixing: no color bleeding, no ghosting, no artifacts...!

► **1.5MB Frame Buffer.** Display 24-bit, 16 million color images on your Amiga monitor. On a multi-sync monitor, you can even display 16 million color images in non-interlaced mode!

► **Realtime Framegrabber/Digitizer.** Freeze, grab and store (in standard 4096 or 16 million color IFF format) any frame from a "live" incoming RGB video source. Optional "RGB splitter" required to grab incoming composite or S-VHS video.

► **Flicker-Eliminator.** Duplicates and enhances the A3000's display enhancer circuitry. It even de-interlaces live external video! A must for any A2000 owner. Ask about our A2000 "genlock slot trade-up" program (in case your genlock slot is already used by something less exciting!)



► **Simultaneous Component Video (RGB) Out, Composite Video Out and S-VHS Video Out.** Now, anything you can see on your Amiga monitor can be recorded on video tape,

Introducing the IMPACT VISION 24™ from GVP The All-In-One Video Peripheral for the A3000 and A2000

including animations, ray-traced 24-bit images and more!

► **Picture-in-Picture (PIP) Display.** Freeze, resize, rescale and/or reposition live incoming RGB video just like any workbench window at the double click of a mouse or the pressing of a "hot key". With a multi-sync all this can even be in rock steady de-interlaced mode. Unique "reverse-PIP" feature, even allows you to place a fully functional Amiga workbench (or other application) screen as a SCALE-ABLE (shrunk down!) and re-positionable window over full-screen live video.

► To make sure you can take full and immediate advantage of every feature of your new Impact Vision 24 video-station, we even include the following software with every unit:

• **Caligari™-IV24.** An exclusive version of the leading broadcast quality, 3-D modelling and rendering

program. Use your imagination to model 3D, 16 million color, scenes. Use your digitized video images as textures to wrap around any object! The mind is the limit!

• **SCALA™-Titling.** Easy-to-learn, video titling package complete with lots of special fonts and exciting special transition effects. Turn your Amiga into a character generator.

• **MACROPAINT™-IV24.** A 2D, 16 million color paint program that lets you have fun



creating or manipulating any 16 million color, 24-bit image.

• **Control Panel.** Provides full software control over all Impact Vision-24's numerous features. Use your mouse or simply

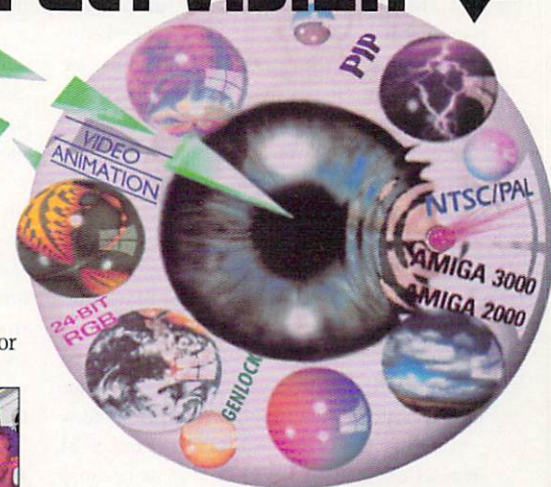


press a (configurable) "hot key" to activate any feature.

At GVP, we wanted to make a major impact on the use of the A3000/2000 by professional video enthusiasts. With the Impact Vision-24 we have!

For more information on how the Impact Vision 24 can have a major impact on your video productions, call us at 215-337-8770.

IMPACT VISION 24



GVP

GREAT VALLEY PRODUCTS, INC.
600 Clark Ave., King of Prussia, PA 19406
For more information or your nearest GVP dealer, call today. Dealer inquiries welcome.
Tel. (215) 337-8770 • FAX (215) 337-9922

Amiga is a registered trademark of Commodore-Amiga, Inc.

EDITORIAL CONTENT

The Best?

We have all seen the awards and honors given in other computer markets. "Product of the Year" is my favorite. Somewhere, someone (or a group of someones) has looked at all the products introduced in the last 365 days and has decided that one product is the best of them all.

In the best of circumstances, this means our individual, or group of individuals, has chosen this product based on a variety of standards from ease of use to versatility. However, they may be judging anything from animation programs to spreadsheets and this does not seem to be a problem. One of the products will be judged the best and the rest will find solace and awards in other categories.

use the Impact board and then purchase another Amiga work station complete with the Video Toaster for my later efforts.

A great many Amiga hard drive users still back up their drives with floppies when it is much easier to perform backups with tape drives. Why? Because the additional cost of the tape drive system is not always warranted for the time it takes them to back up their data with floppies. This is a clear case of appropriate hardware which, although advanced and technically proficient, requires the consumer to make a choice. Not only will they need to commit more money initially, but they will need to install and learn a new piece of hardware. As an editor, I believe the tape drive is

rewarded so everyone will strive to do more. However, this recognition must come from the general Amiga public, the entire community, and nowhere else.

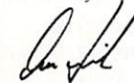
This is why *Amazing Computing* has launched the Reader's Choice Awards. This is your opportunity to discuss, challenge, and support the products within our industry. This is one moment when everyone in every country can join together to grant acknowledgment and thanks to the products which have made the Amiga their computer of choice.

The Amiga has great applications and we should acknowledge their contributions to the Amiga marketplace. However, this should be done by the people who use these products in all facets of Amiga computing—you. I cannot stress how important your participation is to making this a success. As in any election, it can only be comprehensive if everyone is involved. We do not expect everyone to complete each category. I imagine that most of us will only have a few choices each. Don't be concerned if you cannot complete the ballot, but please vote.

To assure this is not a contest between organizations to see who can best stuff the ballot box, each ballot must have a completed name, address, and Amiga model number. The blank ballot may be photocopied, but the information on each ballot must be handwritten. All ballots must be postmarked by July 31, 1992 to be included in the tally. The awards will be announced in the November issue of *Amazing Computing* as well as included in the Winter '93 edition of *AC's GUIDE To The Commodore Amiga*.

At the end of the ballot is a small area for your thoughts (you may attach additional sheets as necessary). This space is for anything you believe is important to say to the Amiga community. We will reprint some of these in *AC* and *AC's GUIDE*. In addition, we will collect these comments for distribution to the Amiga developers. This is your opportunity to acknowledge the best in the Amiga market and give everyone your best thoughts as well. Please be involved.

Sincerely,



Don Hicks
Managing

The Amiga has great applications and we should acknowledge their contributions to the Amiga marketplace. However, this should be done by the people who use these products in all facets of Amiga computing—you.

The interesting thing is most of these judgements are performed by overworked journalists and editors. These are people who fight monthly to meet their necessary deadlines, yet have all the calm, contemplative time necessary to provide a clear concept of the one superior product introduced over the past year.

Honestly, I am not making fun of these people. My heart goes out to them. I can only imagine the terrific pressure they must be under as they make their final choice. How they arrived at their choice is rarely revealed. There will be a list of features, a few screen shots, and, if there is room, a photo of a business or organization who has been able to incorporate the best features of the awarded product into their daily activities.

However, is this a clear picture of what an application or piece of hardware is capable of doing? Does it explain the choices that must be made in order to apply this particular solution? Every computer solution requires choices.

I may decide to use GVP's Impact 24 instead of NewTek's Video Toaster because the features and requirements of one fit my current demands. This would fly in the face of reason when compared to the barrage of articles and cover stories concerning the Video Toaster which promote it as the best choice for any video work. But, it may not be the best choice for me. It might not be the best choice for the task that I must perform. I may decide I can

the way to go and suggest its use. However, as a consumer, I still have not made the plunge and purchased a unit for my own use.

The idea that I, or any journalist, should decide a product is the best solution for a particular task is shortsighted at best. All we can do is provide you, our readers, with as much information as we have available about a product so you can decide if a product is suitable for your needs. By demonstrating the choices and criteria of each application, we have provided you with the opportunity to make an informed decision.

Professional journalists do understand the products and what each can do, but does anyone have the all-knowing vision to decide the best for the rest of us? While I believe there is a great deal of competence and professional understanding in almost all computer magazine's editorial staffs, I cannot agree any one person or group has the correct answers for all our needs.

A Bit Of Recognition

While allowing small groups to decide what is the best within our industry may not be the answer, recognition must be given. We must recognize the work and dedication in every product we use. Each application for the Amiga began as the idea of an individual who extended themselves and created a product for the rest of us. The best applications must be

Amazing Computing's Reader's Choice Awards

Official Entry Ballot

Register Here!

Amazing Computing's reader choice award is open to all readers of AC throughout the world. This is your opportunity to promote the companies and products you believe are providing the most value and service to the Amiga community. This is your means to demonstrate your appreciation for spectacular products offered and superior service rendered.

First, register your ballot by supplying your name, address, and Amiga model number in the space provided. This is necessary to be certain the Amiga community obtains a fair and impartial vote. No duplicate entries please. Photocopies of this ballot are acceptable, however, we must limit votes to one handwritten ballot per Amiga user.

Second, list your favorite Amiga programs and Amiga vendors in the space provided with the best being on top and the least on the bottom. You are limited to four entries per category (except CDTV). Be legible, if we cannot read your entry, we will not be able to accept it.

Third, give us your thoughts. At the end of the ballot is a space for your comments, suggestions, concerns, and ideas for the Amiga market. Please take a moment to address the Amiga issues that are important to you.

Fourth, mail your ballot to:
Vote Amiga'92
c/o PiM Publications, Inc.
P.O. Box 2140
Fall River, MA 02722-2140

Don't Delay! In order to be counted, all ballots must be postmarked by July 31, 1992. Don't miss this chance to award the products and vendors who have supplied you with the tools to do more with your Amiga.

Look for the results of AC's Reader Choice Awards in the November issue of *Amazing Computing* and the Winter '93 edition of AC's *GUIDE To The Commodore Amiga*.

Please complete the following. Your vote cannot be counted if you do not register here.

Name _____

Address _____

City _____ State _____ ZIP _____

Country _____ I own an Amiga _____
(please give model number, ie. A500)

Software:

Listed below are 17 categories of software. Choose your favorite software package from each category. List up to four (4) packages from each category. If you list more than one (1) product, place them in order of importance with the best on top, second in second place, etc. Each category will be marked separately from the others so be sure to grade your choices separately.

Drawing/Painting Package
(DeluxePaint, Digi-Paint,
ProDraw, etc.)

1. _____
2. _____
3. _____
4. _____

Animation (The Animation Studio,
VistaPro, Disney Animation
Station, etc.)

1. _____
2. _____
3. _____
4. _____

3-D (3D Pro, Draw4D, etc.)

1. _____
2. _____
3. _____
4. _____

CAD (DynaCADD, X-Cad, etc.)

1. _____
2. _____
3. _____
4. _____

Desktop Video (AlterImage
Video F/X, DeluxeVideo, etc.)

1. _____
2. _____
3. _____
4. _____

Image Processing

1. _____
2. _____
3. _____
4. _____

Desktop Publishing (page layout,
clip art, fonts, etc.)

1. _____
2. _____
3. _____
4. _____

Word Processing

1. _____
2. _____
3. _____
4. _____

Text Editors
(commercial or public domain)

1. _____
2. _____
3. _____
4. _____

Presentation Programs

1. _____
2. _____
3. _____
4. _____

Telecommunications

1. _____
2. _____
3. _____
4. _____

Business Packages (spreadsheets,
database, finance, etc.)

1. _____
2. _____
3. _____
4. _____

Music (MIDI, digitizers, editor/
librarians, etc.)

1. _____
2. _____
3. _____
4. _____

Education

1. _____
2. _____
3. _____
4. _____

Authoring Systems (AmigaVision,
The Director, etc.)

1. _____
2. _____
3. _____
4. _____

Utilities: Backup, DOS Conversion,
Print, Miscellaneous

1. _____
2. _____
3. _____
4. _____

Language/Programming

1. _____
2. _____
3. _____
4. _____

(continued on page 8)

Completion is not required!

You need not fill in every category or even every line in each category. Please vote in those areas where you have strong commitments. Your vote will be as important as you make it.

Amazing Computing's Reader's Choice Awards

Official Entry Ballot

page 2

Hardware:

Listed below are 14 categories of hardware. Choose your favorite piece of hardware from each category. List up to four (4) items from each category. (Be sure to list the manufacturer with the product.) If you list more than one (1) product, place them in order of importance with the best on top, second in second place, etc. Each category will be marked separately from the others so be sure to grade your choices separately.

Hard Drives, Internal/External

1. _____
2. _____
3. _____
4. _____

Floppy Drives, Internal/External

1. _____
2. _____
3. _____
4. _____

Hard Drive Controllers

1. _____
2. _____
3. _____
4. _____

Optical/Tape Drives

1. _____
2. _____
3. _____
4. _____

Emulators (Bridgeboard, etc.)

1. _____
2. _____
3. _____
4. _____

CD-ROM

1. _____
2. _____
3. _____
4. _____

Memory Expansion

1. _____
2. _____
3. _____
4. _____

Graphics Cards

(FireCracker 24, Toaster, etc.)

1. _____
2. _____
3. _____
4. _____

Accelerators (list the Amiga model used)

1. _____
2. _____
3. _____
4. _____

Video Hardware (genlocks, TBC's, switchers, etc.)

1. _____
2. _____
3. _____
4. _____

Scanners/Digitizers

1. _____
2. _____
3. _____
4. _____

Monitors

1. _____
2. _____
3. _____
4. _____

Input Devices (keyboards, mouse, joystick, etc.)

1. _____
2. _____
3. _____
4. _____

Printers

(dot-matrix, laser, ink, etc.)

1. _____
2. _____
3. _____
4. _____

Please Note:

Photocopies of this ballot are acceptable, however only one ballot per person will be counted.

Entertainment:

Because there are so many different types of games on the market, we are unable to list each category separately. Please list your favorite game(s) and apply the rating system to your choice(s). Also, you are given the opportunity to list your favorite game manufacturers and grade them accordingly.

Favorite Game(s):

1. _____
2. _____
3. _____
4. _____

Best Manufacturer(s):

1. _____
2. _____
3. _____
4. _____

Service:

This is an opportunity to grade Amiga companies on their service. List up to four (4) companies and grade them on these areas: responsiveness to customer's needs, user registration process, awareness of problems, courtesy, tech support, upgrade availability, and availability of assistance (for tech support, questions, orders, etc.).

Best Manufacturer:

1. _____
2. _____
3. _____
4. _____

Best Technical Support:

1. _____
2. _____
3. _____
4. _____

CDTV:

CDTV is still new to the Amiga market with more titles being introduced all the time. For the sake of space, we have offered one master category for your favorite CDTV applications. Due to the large variety of CDTV titles, we have made this section eight lines in length and will judge them in the manner established in other categories. Please list them below and apply the rating system to your choice.

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | 8. _____ |

Write In:

No election would be complete without a write in section. We have included this area in case we have missed a section of the Amiga market you feel should be included or you have comments or suggestions that you would like to address to the Amiga developer community. Please make your comments, suggestions, and/or choices below. Your thoughts are important to the entire Amiga industry. Take a moment and express yourself and attach an added sheet if necessary.

The Scale:

Place your choices in the appropriate category. Judge a company and/or its product by reliability, customer service, compatibility, upgrade availability, ease of use, features, effectiveness of product, etc. Many products can be placed under more than one category. (DeluxePaint IV, for example, does drawing, painting, and animation.)

#1-AND DRIVE-ING HARD TO STAY THAT WAY!

IMPACT
Series II

Only GVP Factory Installed A2000 HC8+/52Q, 105Q or 200 SCSI Hard Disk+RAM Boards have a track record this good—over 20,000 satisfied Amiga® users and now a 2-Year Warranty!

Don't waste your valuable time or money building a SCSI+RAM Controller from parts...

Because of our unprecedented pricing structure you can now get GVP's, brand name, factory installed A2000 HC8+/52Q, 105Q or 200 at a very competitive price.

► **GVP's A2000 HC8+/52Q, 105Q or 200 — THE SAFEST CHOICE**

Look for the GVP Factory Installed Drive Seal... it's your assurance that your A2000 HC8+/52Q, 105Q or 200 has been installed and tested in GVP's own factory...

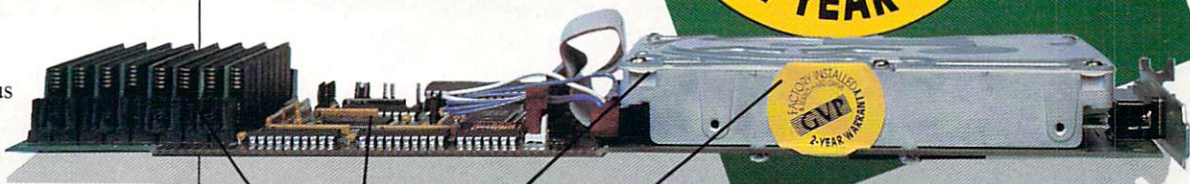
And the 2 year limited warranty protects you better *and longer* than any third party installed drive. And with third party drives you run the risk of a run around if anything does go wrong.

► **GVP's A2000 HC8+/52Q, 105Q or 200 — NOW EVEN FASTER WITH FAAASTROM™ 4.0**

All A2000 HC8+/52Q, 105Q or 200 have been redesigned and equipped with GVP's newest fastest SCSI Driver — FAAASTROM 4.0. Plus, we've also doubled Western Digital's SCSI Controller clockspeed to 14Mhz—for a tremendous increase in speed...

► **GVP's A2000 HC8+/52Q, 105Q or 200 — JUST LOOK AT THESE FEATURES**

- Custom chip design for the fastest possible data transfer rates and DMA performance—even in a multi-tasking environment.



Up to 8MB
FAST RAM
Expansion

Factory Installed
3.5" Hard Disk
Drive

GVP Custom
VLSI Chip

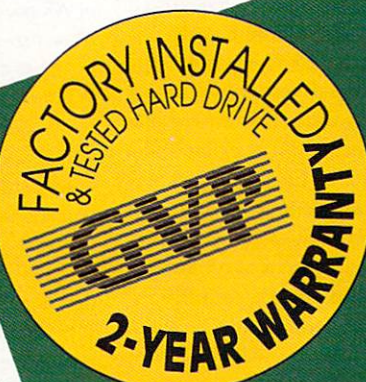
GVP Factory
Installed Seal

- Easy-to-Install SIMM memory modules for configurations up to 8MB—and support BridgeBoard users with the 6MB FAST RAM.
- Support for virtually any SCSI device.
- Fastest and easiest SCSI installation possible.

► **GVP's A2000 HC8+/52Q, 105Q or 200 — JUST LOOK FOR THE GVP FACTORY INSTALLED SEAL**

Remember if the GVP Factory Installed seal shown in this ad isn't on your A2000 HC8+/52Q, 105Q or 200 box... it isn't the fastest, most powerful, longest warrantied, safest A2000 HC8+/52Q, 105Q or 200 you can buy.

Ask for and accept only GVP A2000 HC8+/52Q, 105Q or 200 with the Factory Installed seal. For more information call 215-337-8770.



GVP

GREAT VALLEY PRODUCTS INC.
600 Clark Avenue, King of Prussia, PA 19406
For more information or your nearest GVP dealer, call today. Dealer inquiries welcome.
Tel. (215) 337-8770 • FAX (215) 337-9922

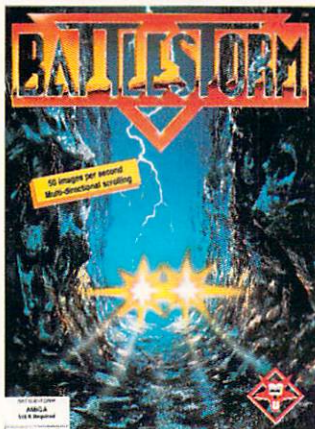
Amiga is a registered trademark of Commodore-Amiga, Inc.
© 1991 Great Valley Products Inc.

New Products

& Other Neat Stuff

edited by Timothy Duarte

• Software •



Battlestorm

There is a state of emergency on all frontier worlds. The Kalomarian enemies, led by their state of the art command vessels, are taking over this galaxy. They are capable of destruction on a stellar scale. There is little time left to act and counter attack these invaders, but the Empire is already defenseless. Destroy squadrons to retrieve vital shield pods, annihilate motherships to acquire equipment pods, and more. All these will protect you against the enemies' powerful attacks and provide you with more sophisticated weaponry. You will need all the help you can get if you are going to destroy the Battlestorms and launch your final attack on their headquarters. Battlestorm also features 8 levels and fast animation—more than 50 images per second. *Suggested retail price: \$49.95, Titus Software Corporation, 20432 Corisco St., Chatsworth, CA 91311, (818) 709-3692, Inquiry #210*

CNet v2.0 Bulletin Board System

Power, speed, and user-friendliness are featured in CNet, a fully multitasking BBS for all models of the Amiga using AmigaDOS 1.3 or 2.x. Supporting up to 24 external phone lines, CNet can operate a small single-line BBS at home, or as an international FIDO-Net or UUCP network node.

CNet installs easily on any Amiga hard drive, and comes with instructions covering the extensive array of configurable options. Other system features include multi-user conferencing, major file transfer protocols, true visual editing for ANSI users, and a password system for security. Technical operators can extend the system further with the addition of C or ARexx external program modules for games, or dedicated business applications.

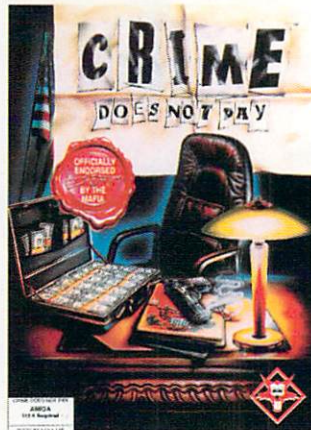
With multitasking, several BBS users can be connected to the Amiga in the background while you operate a word processor or spreadsheet. CNet requires 1MB of RAM and an additional 200K for each phone line. For an on-line demonstration, call the support BBS at (313) 981-1524. *Suggested retail price: \$129.95, Beverly James Products, P.O. Box 40191, Redford, MI 48240, Inquiry #211*

Crime Does Not Pay

The action scenes will put you against punks, cops, or killers of the adversary gang. That's right, the cops are not necessarily on your side. So make sure your .45 automatic is loaded.

Control and neutralize the powerful men who will attempt to stop you in your quest by making them offers that they can't refuse. Rob

banks, steal compromising documents and information from the 200 locations throughout the city. Remember—the end does justify the means. Doesn't crime pay? You'll figure it out. *Suggested retail price: \$49.95, Titus Software Corporation, 20432 Corisco St., Chatsworth, CA 91311, (818) 709-3692, Inquiry #212*



Fontgrabber

Fontgrabber is designed to let the user create high quality monochrome fonts for use in desktop publishing and video work. The idea behind Fontgrabber is to load an IFF file containing your font design and simply drag a box around each character you want to define. Then, let Fontgrabber decide how the font should look. Designs can be created with a paint program or scanned using a black and white scanner. This means that you can easily create character-based fonts such as Russian, Arabic, and Chinese. Even graphic shapes, such as chess pieces, can be made to be a font. *Suggested retail price: \$75, Genisoft, Unit 3, Poyle 14, Newlands Dr., Colnbrook, Berks, SL3 0DX, England, (0753) 680363, Inquiry #213*

ENLAN-DFS

Interworks has introduced an Ethernet-based, Distributed File System for the Amiga. This peer-to-peer LAN solution provides the software needed to interconnect a workgroup of Amiga computers. ENLAN-DFS provides disk, file, and peripheral sharing that until now was only available on other

personal computers. Features include passwords, read-only access to protect system files and applications, a transparent design, and more. *Suggested retail price: \$349, Interworks, 195 E. Main St., Suite 230, Milford, MA 01757, (508) 476-3893, Inquiry #214*

Fun Fonts

This package contains three disks of very large, highly-detailed ornamental fonts for humorous and playful video titling. 23 Video Toaster CG fonts are included for anti-alias titling in the scroll and crawl pages as well as key or framestore pages for DVEs. The Toaster sizes are 80 point—the largest allowed. 23 Additional AmigaDOS fonts are double the size of the Toaster fonts. The following fonts are included: Achilles, Circus, Flash Caps, Frankenstein, Frisco, Orleans Open, Panorama, and Tarantella. *Suggested retail price: \$39.95, Allied Studios, 482 Hayes St., San Francisco, CA 94102, (415) 863-1781, Inquiry #215*



Harpoon: Battleset #4, Indian Ocean/Persian Gulf

As political conflicts between the dominant world powers fade, nations must prepare for a new style of naval combat. This new disk for Harpoon focuses on the escalating conflicts in the Persian Gulf. As the situation unfolds, the oil resources of the Gulf are in danger of falling into the hands of madmen. The naval forces at your command are the only safeguard against global economic collapse and the destruction of freedom in the region.

THINK ALL '040 ACCELERATORS ARE THE SAME?

THINK AGAIN!

As a high power Amiga® 3000/3000T user you need a 68040 accelerator board for one reason ... and one reason only ... SPEED!

And once you know what makes one 68040 accelerator better than another, the only board you'll want is the G-FORCE 040 from GVP.

WATCH OUT FOR SLOW DRAM BOTTLENECKS

Yes, all 68040 CPU's are created equal but this doesn't mean that all accelerator boards allow your A3000 to make the most of the 68040 CPU's incredible performance.

The A3000 was designed to work with low-cost, 80ns DRAM (memory) technology. As a result, anytime the '040 CPU accesses the A3000 motherboard, memory lots of CPU wait-states are introduced and all the reasons you bought your accelerator literally come to a screeching halt!

Not true for the G-FORCE 040...

SOLUTION: THE G-FORCE 040's FAST, 40ns, ON BOARD DRAM

To eliminate this memory access bottleneck, we designed a special 1MB, 32-bit wide, non-multiplexed, SIMM module using 40ns DRAMs (yes, *forty nano-seconds!*). This revolutionary memory module allows the G-FORCE 040 to be populated with up to 8MB of state-of-the-art, high performance, on-board DRAM. Think of this as a giant 8MB cache which lets the '040 CPU race along at the top performance speeds you paid for.

SHOP SMART: COMPARE THESE G-FORCE 040 SPECS TO ANY OTHER '040 ACCELERATOR

► 68040 CPU running at 28Mhz providing 22 MIPS and 3.75 MFLOPS!

NOTE: The 68040 incorporates a CPU, MMU, FPU and separate 4KB data and instruction caches on a single chip.

► 0 to 8MB of onboard, 40ns, non-multiplexed, DRAM. Fully auto-configured, user-installable SIMM modules lets you expand your A3000 to 24MB!

► DRAM controller design fully supports the 68040 CPU's burst memory access mode.

► Full DMA (Direct Memory Access) to/from the on-board DRAM by any A3000 peripheral (e.g. the A3000's built-in hard disk controller).

► Asynchronous design allows the 68040 to run at clock speeds independent of the A3000 motherboard speed. Allows easy upgrade to 33Mhz 68040 (over 25.3 MIPS!) when available from Motorola.

► Hardware support for allowing V2.0 Kickstart ROM to be copied into and mirrored by the high performance on-board DRAM. Its like caching the entire operating system!

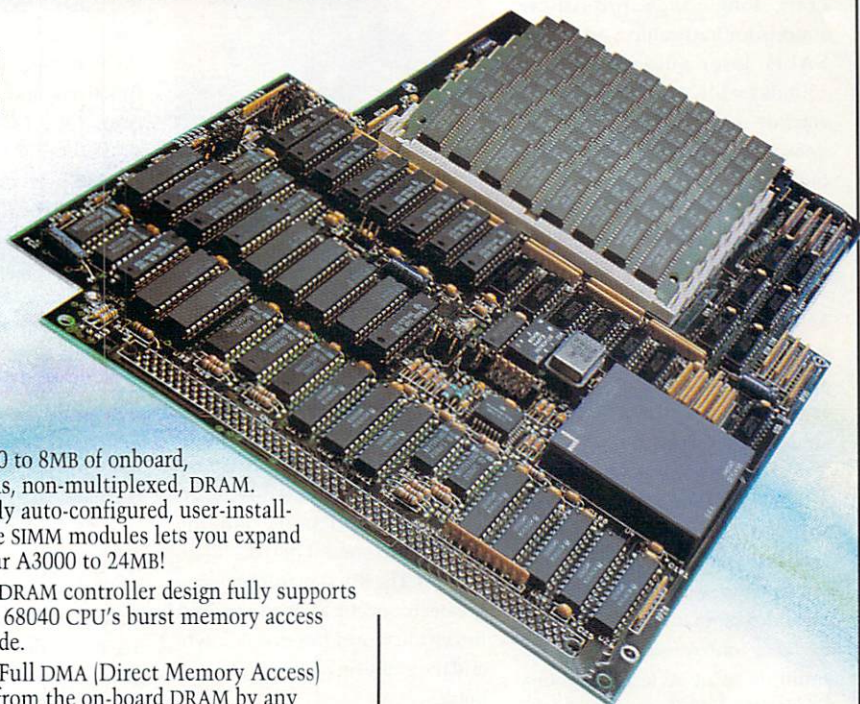
► Software switchable 68030 "fallback" mode for full backward compatibility with the A3000's native 68030 CPU.

► Incorporates GVP's proven quality, experience and leadership in Amiga accelerator products.

TRY A RAM DISK PERFORMANCE TEST AND SEE FOR YOURSELF HOW THE G-FORCE 040 OUTPERFORMS THE COMPETITION

Ask your dealer to run any "RAM disk" performance test and see the G-FORCE 040's amazing powers in action.

So now that you know the facts, order your G-FORCE 040 today. After all, the only reason why you need an '040 accelerator is **SPEED!**



G-FORCE 040™



Up to 8MB of high speed (40ns) DRAM

Motorola 68040 CPU running at 28 Mhz

A3000 "CPU slot" connector

GVP

GREAT VALLEY PRODUCTS INC.
600 Clark Avenue, King of Prussia, PA 19406

For more information or your nearest GVP dealer, call today. Dealer inquiries welcome.
Tel. (215) 337-8770 • FAX (215) 337-9922

G-Force 040 is a registered trademark of Great Valley Products Inc.
Amiga is a registered trademark of Commodore-Amiga, Inc.
© 1991 Great Valley Products Inc.

New Products

8 Other Neat Stuff

Other features include stealth aircraft, long range sub-caliber rounds for battleships, advanced SALH laser-guided artillery rounds for MK 45 equipped ships, satellite reconnaissance, updated passive sonar stats, and more. *Suggested retail price: \$34.95, Three-Sixty/Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA 94404, (415) 571-7171, Inquiry #216*

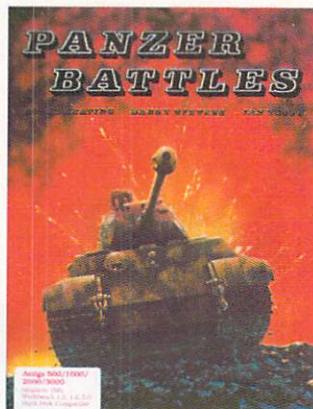
Mail-O-Dex Professional

A rolodex, mail-merge manager, speed dialer, and label printer in one program, Mail-O-Dex Professional, also dubbed as version 3, is a major overhaul of the original Mail-O-Dex program. New features include Workbench 2.0 compatibility, file requesters, join list functions, envelope printing, an undo command, iconify/zoom gadget, font-sensitive window, multiple print styles, and more. *Suggested retail price: \$39.95, KarmaSoft, P.O. Box 1034, Golden, CO 80402-1034, (303) 490-2939, Inquiry #217*

Pacific Islands: Team Yankee II

The much-awaited sequel to *Team Yankee* is now available. It's 1995 and you're in control of an American tank platoon whose mission is to reclaim Yama Yama, a strategically important group of islands in the Pacific. The islands have been invaded by disaffected Soviet communists backed by North Korea.

Eliminate the enemy in a desperate race against time. Test your strategic abilities as you simultaneously deal with multiple objectives through over 30 nerve-clenching battles. If all five islands are liberated, your mission is called a success. *Suggested retail price: \$49.95, ReadySoft, 30 Wertheim Court, Suite 2, Richmond Hill, Ontario, Canada, L4B 1B9, (416) 731-4175, Inquiry #218*



Panzer Battles

Panzer Battles is the second release from Strategic Studies Group, following the highly successful *Halls of Montezuma*. The game illustrates the free-wheeling attack and counter attack of armored warfare in Russia. On the German side are elite formations, including SS and Army Panzer divisions. The Russian side includes the Siberian Shock Troops and the battle-hardened Guards Tank Armies. The Russian front saw the greatest concentration of armored forces the world has ever known, and the game recreates six of those battles.

Panzer Battles also includes the WarPlan and WarPaint design kits, which allows creation and editing of scenarios and icons. *Suggested retail price: \$49.95, Strategic Studies Group, 8348 Monticello Dr., Pensacola, FL 32514, (904) 494-9373, Inquiry #219*

PGA Tour Golf Tournament Course Disk

This add on disk for *PGA Tour Golf* features enhanced graphics and three new courses and tournaments—TPC at Eagle Trace, home of The Honda Classic, TPC of Scottsdale, home of The Phoenix Open, and TPC at Southwind home of The Federal Express St. Jude Classic.

All courses were designed from the original course blueprints. Learn to negotiate the same narrow doglegs, treacherous water hazards, and changing wind conditions the pros do. Reference the overhead map to plan your approach to the pin, check the ball lie to decide on the most effective

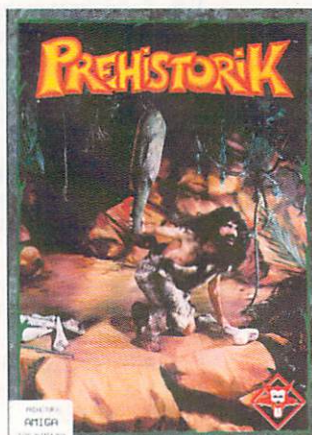
club, and more. Stay on top of the leaderboard to make the early round cuts, then fight to finish in the money. *Suggested retail price: \$24.95, Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA 94404, (415) 571-7171, Inquiry #220*

Power Pinball

KarmaSoft recently released version 1.1 of *Power Pinball*, sporting an embossed look for all editing functions and several new features. *Power Pinball* is a realistic simulation of a pinball machine. Play one of the seven included machines, or design your own. Other features include improved flipper response and ball flow, attract mode, mouse support for flippers, color cycling, importing of digitized IFF sounds and IFF pictures, and more. A CDTV version is also available. *Suggested retail price: \$39.95, KarmaSoft, P.O. Box 1034, Golden, CO 80402-1034, (303) 490-2939, Inquiry #221*

Power Pinball Expansion Disk #1

This disk features more pinball machines for *Power Pinball*. Eight new machines and 36 new sound effects which can be added to your own machines are included. This disk is packed—0 bytes remaining. Several machines were created by Amiga artist, Joan Ashdown. The *Power Pinball* v. 1.1 update is offered free with the purchase of the expansion disk. *Suggested retail price: \$15.95, KarmaSoft, P.O. Box 1034, Golden, CO 80402-1034, (303) 490-2939, Inquiry #222*



Prehistorik

Eat and beat your way through 150 screens of nourishing fun and relive the Prehistoric age in this new game from Titus.

Armed with your Diner Club Anticus, proven to be the ancestor of the baseball bat, start in pursuit of the Hilarious Maxidocus and take on armies of hairy spiders. Explore the virgin icefields of Antarctica, the lush jungles of the Tropics, and the dark, mysterious caverns of the shady continent. Don't worry about the beatin' and eatin'—it's all for the good of the T-Bone Tribe. The hunt for lunch is on, so come and get it! A CDTV version of *Prehistorik* is also available. *Suggested retail price: \$49.95, Titus Software Corporation, 20432 Corisco St., Chatsworth, CA 91311, (818) 709-3692, Inquiry #223*

ProStream PostScript Type-1 Fonts

This six-disk set consists of two disks of *Professional Page* PS fonts, two disks of *PageStream* PS fonts, and two disks of AmigaDOS standard bit-map disk fonts.

There are 38 ProPage fonts usable by all versions since 1.2. These are screen fonts for page layout and ProPage metric files for precision kerning/letterfitting. An additional 12 PS fonts are included in the PageStream fonts.

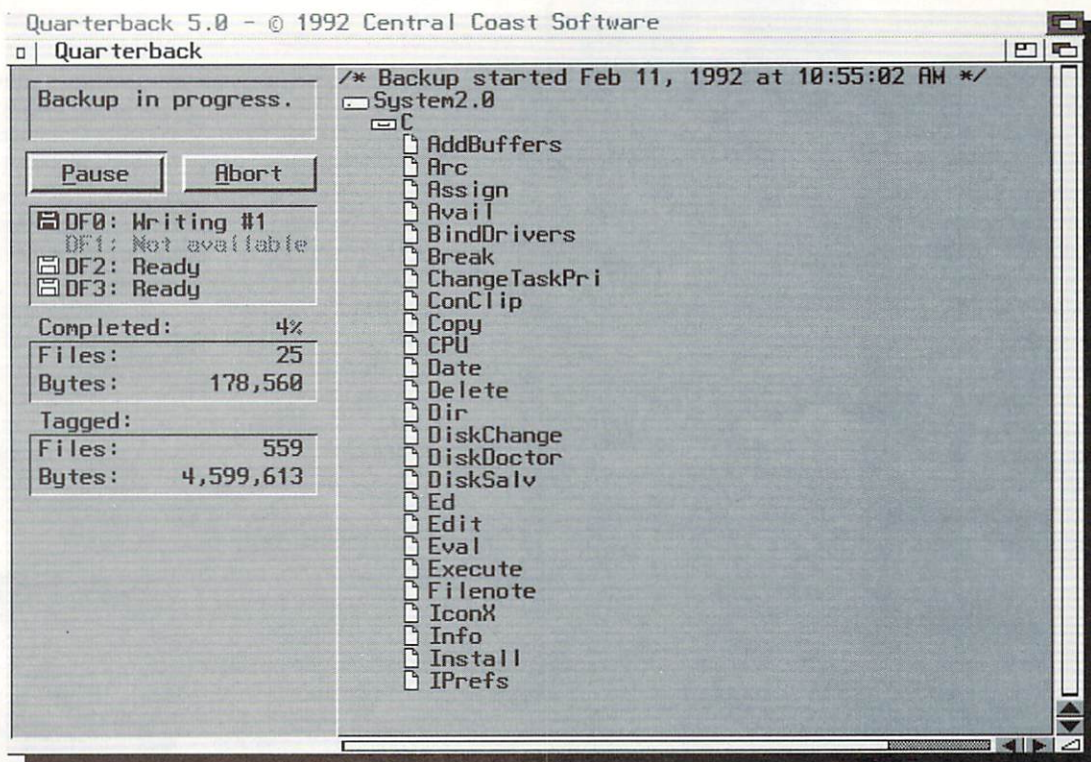
Integrate any of the 114 AmigaDOS standard bit-map disk fonts with *DeluxePaint*, *Scala*, *ShowMaker*, *Amigavision*, *ToasterPaint*, and other programs. *Suggested retail price: \$37.95, Allied Studios, 482 Hayes St., San Francisco, CA 94102, (415) 863-1781, Inquiry #224*

REXX PLUS Compiler

Do you need faster execution for REXX programs? Do you want REXX macros to execute as part of your host programs? Do you want to distribute REXX code without the source? The Dineen Edwards Group has announced REXX PLUS Compiler. It makes your REXX programs fly—two to 15 times faster. Compiled programs are 100 percent re-entrant and can be made resident. Make those often used macros resident and eliminate waiting. The macros will

Quarterback 5.0

The Next Generation In Backup Software



- The fastest backup and archiving program on the Amiga!
- Supports up to four floppy drives for backup and restore
- New integrated streaming tape support
- New "compression" option for backups
- Optional password protection, with encryption, for data security
- Full tape control for retention, erase and rewinding
- New "interrogator," retrieves device information from SCSI devices
- Capable of complete, subdirectory-only, or selected-files backup and restore
- Improved wild card and pattern matching, for fast and easy selective archiving
- Restores all date and time stamps, file notes, and protection bits on files and directories
- Supports both hard and soft links
- Full macro and AREXX support
- Full Workbench 2.0 compatibility
- Improved user interface, with Workbench 2.0 style "3-D" appearance
- Many more features!

Thousands of people rely on Quarterback for their backup and archival needs. Now, with Quarterback 5.0, there is even more reason to do so. Greater speed, even more features, and proven reliability. And a new "3-D" user interface puts these powerful capabilities at your finger tips. With features like these, it is no wonder that Quarterback is the best selling backup program for the Amiga. Would you trust your data with anything less?



Central Coast Software

A Division Of New Horizons Software, Inc.

206 Wild Basin Road, Suite 109,
Austin, Texas 78746

(512) 328-6650 • FAX (512) 328-1925

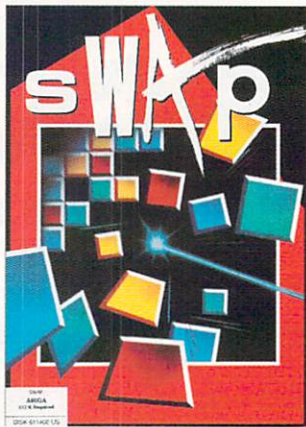
Quarterback is a trademark of New Horizons Software, Inc.

New Products

& Other Neat Stuff

seem as if they are part of the editor, data base, or video package you are working with.

The compiler comes on two disks and a 270-page manual is also included. All `rexxsupport.library` and `rexxmathlib.library` functions can be made built-in, as well as the additional functions provided in `rexxplsextn.library`. Error messages contain a line number and a column number and they are found in one compile. Each error is thoroughly described in the manual. 1MB of memory is recommended to compile programs. Suggested retail price: \$150, Dineen Edwards Group, 19785 W. 12 Mile Rd., Ste. 305, Southfield, MI 48076-2553, (313) 352-4288, Inquiry #225



SWAP

SWAP is a sophisticated puzzle game based on squares, triangles, and hexagons. The goal is to eliminate each shape by bringing two identical forms side by side. SWAP requires strategy to avoid forming islands or isolated groups. At the novice level, if things get out of hand, you can trigger an avalanche. This creates a new layout which allows you to continue. At higher levels, scorepoints and

time factors become crucial for managing gameplay. SWAP features more than 300 levels of play, millions of layouts, and billions of combinations. Suggested retail price: \$49.95, Titus Software Corporation, 20432 Corisco St., Chatsworth, CA 91311, (818) 709-3692, Inquiry #226

Video Calibration Set

The human visual system is so adaptable, it's easy to overlook small flaws in a monitor screen. For casual users, it doesn't matter how the screen is adjusted, as long as it looks good. Professional applications often require monitors that are precisely tuned to an absolute standard. The Video Calibration Set is a collection of 41 IFF images that turn a genlock-equipped Amiga into a test pattern generator for examining NTSC or RGB monitors. Included are six color tests, including SMPTE color bars, six brightness and contrast tests, tests for electron beam convergence, phosphor burn, spatial linearity, color and greyscale linearity, and interface flicker. As a bonus, three printed test patterns are included for checking video cameras. Suggested retail price: \$49.95, Vidia, P.O. Box 1180, Manhattan Beach, CA 90266, (310) 379-7139, Inquiry #227

Wild Wheels

Ocean Software announces the release of a futuristic sports game, Wild Wheels. A game of speed and raw power, Wild Wheels is one of the wackiest football games ever—the players are road cars transformed into customized monsters. It's car-to-car combat, pitting you against an opposition with the goal of blasting you into a million white-hot bits of shrapnel. Choose between five leagues, or a 1000-point head start. Each contest takes place within a magnosurfaced area. Each new competitor is provided with a basic team of Shrimp cars, and takes the position of Striker. When a strike car of either team is fully destroyed, the side with the surviving Strike has won the round. As rounds are won, accumulated points can be used for more power, a better car, and

protection. Electronic Arts is distributor in the U.S. for Ocean. Suggested retail price: \$49.95, Electronic Arts, 1450 Fashion Island Blvd., San Mateo, CA 94404, (415) 571-7171, Inquiry #228

• CDTV •

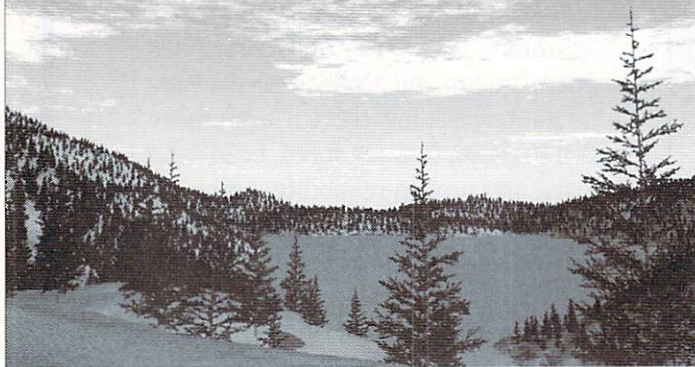
American Vista Atlas

Armchair travelers and students can now explore the USA from the comfort of your own home. Incorporating Hammond's high-definition maps, this reference disc also offers demographic and economic statistics, historical information, more than 1,000 photographic images from Archive photos, and examples of regional folk music from the Smithsonian Institution's Folkways collection. Suggested retail price: \$79.95, Applied Optical Media Corp., 1450 Boot Road, #400, West Chester, PA 19380, (215) 429-3701, Inquiry #229



Fly with the best.

Scenery Animator 2.0



Scenery Animator is a 3-D landscape rendering and animation program. You can fly through real-world landscapes from US Geological Surveys (Yosemite and the Grand Canyon included), or explore imaginary fractal landscapes.

"...I highly recommend this piece of software. **Scenery Animator** is a versatile, powerful, and extremely satisfying program that will bring you many hours of enjoyment."

Amiga World, December 1991

Scenery Animator 2.0 has:

- * Realistic 3-D trees, clouds, lakes, oceans, and snow
- * Infinite fractal landscapes
- * Built-in animation system
- * 24-bit color and CDTV support
- * Requires 2 megabytes

See it at your local dealer today!

Natural Graphics

P.O. Box 1963, Rocklin CA 95677
Phone (916) 624-1436

Circle 126 on Reader Service card.

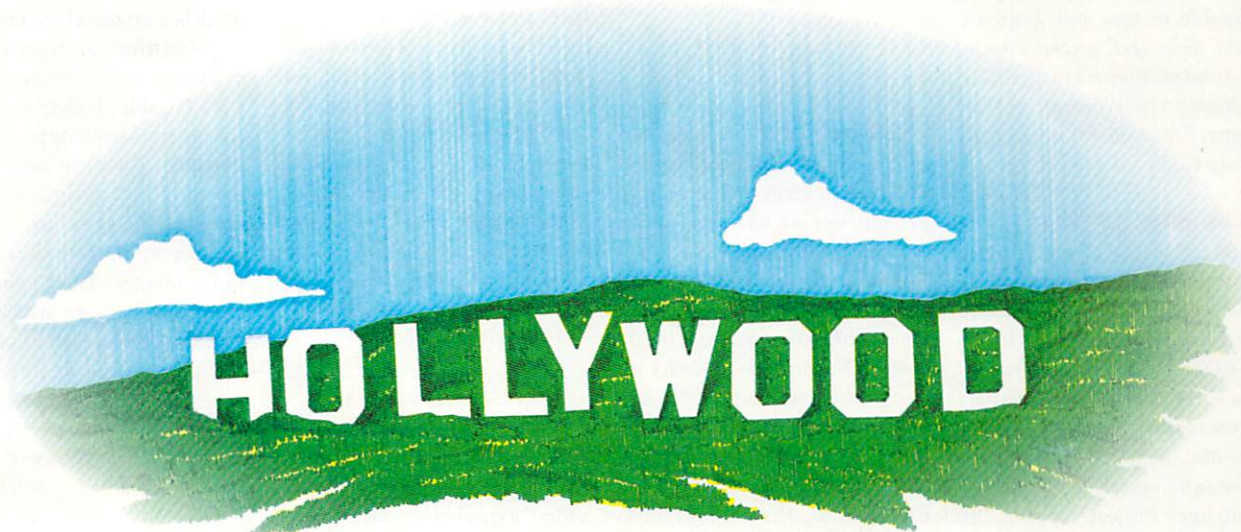
Falcon

Falcon, designed by Spectrum Holobyte, is a flight simulation which lets you take off in a powerful F-16 Fighter. Falcon for CDTV contains 36 separate missions in three combat theaters. It also has accurate weapon systems, head-up displays, cockpit controls, and overall flight characteristics. This game is ideal for aviation buffs. Suggested retail price: \$79.95, Spectrum Holobyte, 2061 Challenger Dr., Alameda, CA 94501, (415) 522-3584, Inquiry #230

Guinness CDTV Disc of Records

Guinness CDTV Disc of Records brings the best-selling book of fascinating feats and achievements to life with audio-visual tours, animation, sound, and pictures.

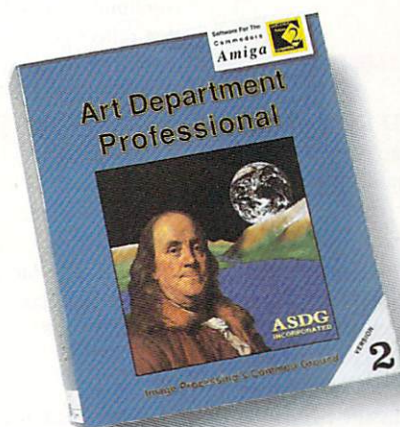
It Takes An Art Department With Connections



Sure, talent and good looks help, but in the real world, you've got to have connections.

This is true whether you want to star in pictures or just manipulate them.

Using **Art Department Professional (ADPro)** you can connect to just about any type of color input or output device such as video digitizers (PP&S and GVP), color scanners (Sharp, EPSON and others), film recorders (Polaroid and LaserGraphics), display boards (Impulse, GVP, Digital



925 Stewart Street
Madison, WI 53713
608/273-6585

Creations, DMI and many others) and all sorts of color and gray scale printers.

No matter which device you're controlling, **ADPro's** advanced image processing, ARexx programmability and powerful format conversion capabilities help you get the best results possible.

So, you provide the talent and good looks and let **Art Department Professional** provide the connections.

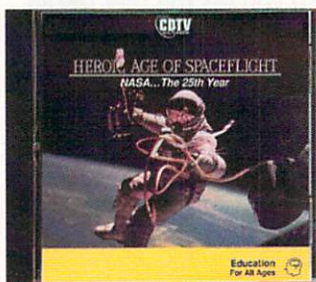
New Products

& Other Neat Stuff

Choose from any of 6,000 world records by topic or superlative—longest, fastest, tallest—to explore a wealth of intriguing facts and figures through hundreds of photographic images and graphics, audio files, and special effects. *Suggested retail price: \$49.95, CDTV Publishing, 1200 Wilson Drive, West Chester, PA 19380, (215) 431-9100, Inquiry #231*

NASA...The 25th Year

NASA...The 25th Year is an overview of the early decades of America's quest for the stars and is one of the first CDTV titles to use the CDXL motion picture format. It's a 10 frame per second, quarter-screen motion picture on a compact disc. Subjects include early aeronautic research, the Soviet challenge, Project Apollo, the Voyager and Viking missions, the space shuttle program, and prospects for the future. The viewer can watch the 50-minute movie from beginning to end, or jump directly to any of the twelve different sections within the movie. Dozens of insightful discussions and additional color images of famous spacecraft and their missions are only the touch of a button away. *Suggested retail price: \$24.95, Troika Multimedia, 3900 Fairfax Dr., Suite 404, Arlington, VA 22203, (703) 841-5160, Inquiry #232*



Ultimate Basketball

Con-Text Systems announced Ultimate Basketball, a five-on-five

multimedia basketball simulation. Join the action on the floor, coach from the sidelines, do a little of both, and even set the game to play itself. With a halftime show and cheerleaders as part of the action, this is one game you won't want to miss. *Suggested retail price: \$49.95, Context Systems, The Technology Center, 333 Byberry Rd., Hatboro, PA 19040, (215) 675-5000, Inquiry #233*

• Hardware •

Pro-Board v3.0

Prolific announced the release of Pro-Board v3.0, the premiere printed circuit board software package for the Amiga. Pro-Board v3.0 adds full autoplacement and full autorouting, direct support for 18-layer PCBs, fine line mode for increased routing density, HPGL and photo plotter support, more tools for modifying PCBs, improved surface mount device support, Net list optimization to aid both manual and autorouting, metric and English coordinates, and is fully functional in zoom modes. *Suggested retail price: \$439, Prolific, Inc., 6905 Oslo Circle, Suite B3, Buena Park, CA 90621, (714) 522-5655, Inquiry #234*

Sony CPD-1604S Multiscan Monitor

The Sony CPD-1604S is a 17-inch color multiscan monitor provides a high resolution, up to 1024 x 768. The display features a 0.25mm Super Fine pitch aperture grille and features low magnetic emission technology. The Trinitron picture tube technology delivers a clear and sharp color image. Text is crisper and easier to read, especially with small type. *Suggested retail price: \$1,699.95, Sony of America, Sony Drive, Park Ridge, NJ 07656, (201) 930-6432, Inquiry #235*

• Books •

Amiga Text Editor Quick Reference

This is a 20-page reference book for all major text editors that run on the Amiga. It lists keyboard

equivalents and macro languages for 11 different editors, including CygnusED, TurboText, TxE Plus, Uedit, DME, and others. It is useful for comparing editors and finding obscure functions. *Suggested retail price: \$7.95, Vidia, P.O. Box 1180, Manhattan Beach, CA 90266, (310) 379-7139, Inquiry #236*

Guide to DeluxePaint IV

A quick visual reference for painting and animating with DeluxePaint has just been released by Vidia. It covers brush transformations, perspective mode, 3-D rotations, angles, symmetry, gradient fills, color schemes, ease in, and much more. Also included is a collection of step-by-step instructions for animation effects called the "movie catalog." *Suggested retail price: \$3.95, Vidia, P.O. Box 1180, Manhattan Beach, CA 90266, (310) 379-7139, Inquiry #237*

• Videotapes •

Beat Videos

Beat Videos, a progressive and new video experience, incorporate continuously-changing Amiga-created graphics and animation to enhance your music. Two styles, Pop Video and Industrial Video Graphics, are currently available. Pop Video is a wild and colorful combination of abstract images that reflect pop music. Industrial Video Graphics reveals a metropolis state of mind with mute images, mechanical and angular in design. Beat Videos add an atmosphere of excitement and are great for home, night clubs, or video displays. *Suggested retail price: \$20.50, Blues and Video Productions, P.O. Box 93581, Cleveland, OH 44101-5581, (216) 881-6440, Inquiry #238*

Toaster Crustacean Videos

Toaster Crustacean offers a number of tutorial videotapes from the video library of the Upper Crust Los Angeles Video Toaster User Group. Each video is in VHS format and is two hours in length. The topics include tips and demos, equipment explorations, and examinations of the latest applications. Volume 5, the latest video,

includes an overview of the Toaster System 2.0. Sampler tapes, which include highlights from previous volumes before number 5, are available for \$19.95. *Suggested retail price: \$34.95, Toaster Crustaceans, 1730 Arcane St., Simi Valley, CA 93065, (805) 522-4864, Inquiry #239*

• Other Neat Stuff •

Imagemaster

Black Belt Systems has announced the addition of true infinite morphing to the company's software flagship, Imagemaster. The new morph capability provides the user with complete control over the morph process geometry and colorimetry over any desired number of automatically tweened 24-bit images. This "image manipulation package which offers processing, compositing, painting, and analysis, all in 24-bit accuracy" is designed to meet the user's needs for a complete high-color image toolkit. *Suggested retail price: \$199.95, Black Belt Systems, 398 Johnson Rd., RR-1 Box 4272, Glasgow, MT 59230, (800) 852-6442, Inquiry #240*

• AC •

How to get your products listed in New Products and Other Neat Stuff

Send a descriptive press release and two copies of the software or hardware. Please include product name, price, company name, full address, and telephone number. Our mailing address is: PiM Publications, Attn: New Products Editor, P.O. Box 2140, Fall River, MA 02722-2140. For UPS and Federal Express, our address is: PiM Publications, Attn: New Products Editor, 1 Currant Place, Currant Rd., Fall River Industrial Park, Fall River, MA 02720-7160.

YOU WON'T RECOGNIZE THE FAMOUS COMPUTER IN THIS AD. OR THE VALUE.



You'd never know the amazing things this black box can do just by looking at it. Not only does CDTV® play your audio CDs but it can bring words, music and pictures to life on your television. CDTV simply connects to your TV and stereo and through its ingenious marriage of computer, audio and video technologies lets you play with a new generation of interactive CDs.

CDTV is based on the Amiga® and if you buy the CDTV/P system before June 30th it comes with AmigaDos®, a keyboard, floppy drive, mouse, Grolier's Electronic Encyclopedia™, Lemmings™, Appetizer pack and a savings of up to \$848.00*.

Just pick up a CDTV Multimedia Player and you'll have a full 1Mb Amiga 500 with the potential to be a home video editing system, a home reference library, a children's learning tool, a music studio and a language learning lab. All within reach of your sofa.

For the name of the closest authorized Amiga dealer or for your free CDTV Welcome Tour video tape call 1-800-66-AMIGA, in Canada, call 1-800-661-AMIGA.

Look into CDTV Multimedia. You'll be amazed at what you see.

CDTV is a registered trademark of Commodore Electronics Ltd. Amiga and AmigaDos are registered trademarks of Commodore Amiga, Inc. Electronic Encyclopedia is a trademark of Grolier Electronic Publishing Inc. Lemmings is a trademark of Psygnosis. © 1992 Commodore Business Machines, Inc. *Based on MSRP, actual dealer prices may vary.

Installing the ATonce- Plus

A look at the installation of the ATonce Plus and configuration of your system

by Richard Mataka

As mentioned last month the ATonce-Plus can be installed in the Amiga 2000. Except for the disassembly of the unit, the installation process is identical to that used in the Amiga 500. You must carefully remove the 68000 microprocessor from its socket to install the ATonce-Plus. The 68000 microprocessor is then reinstalled on top of the ATonce-Plus which is identical to the Amiga 500 installation process. When the ATonce-Plus has been installed in the Amiga 2000 and the Power Supply/Drive Chassis plate reinstalled, you will notice that there is approximately 3/16" space between the Chassis Plate and the 68000 microprocessor. This lack of space is nothing to be concerned about.

Regarding the operation of the unit, it is identical to everything that I have said so far in the Amiga 500. I have been testing the ATonce-Plus in an Amiga 2000 Rev. 6.2 motherboard for approximately five weeks and have encountered no problems at all with the unit's operation in either IBM mode or Amiga mode.

No longer do you need an interface board for the Amiga 2000 as was needed with the original ATonce. Even the next sections discussing the DOS installation are identical. The operation of the ATonce-Plus is analogous whether it is installed in an Amiga 500 or an Amiga 2000. This should be of great comfort to A2000 users who are considering upgrading their system. It is extremely nice that Vortex has solved the technical problems of interfacing with the Amiga 2000 so that the operation and installation of the unit are now universal.

Installing DOS on the Hard Drive

I decided to use Dr. DOS 6.0 by Digital Research because of the wealth of utility software that is provided with this IBM-compatible DOS. IBM magazines have been writing excellent reviews on how this DOS operates on the IBM. Initially, I created a set of floppy boot disks by following the instructions in the Dr. DOS manual. The hard drive is not yet been prepared to accept the IBM system so it is

easier to create a floppy disk bootable version of the DOS. This version is then used to prepare the hard drive.

A number of the special utilities were enabled during the setup process as the floppy disks were created. The hard drive can now be prepared for the operating system. The first program that is used to initialize an IBM hard disk is FDISK.

When partitioning has been completed, your ATonce-Plus system needs to be rebooted so that the new disk partition will be recognized by the IBM software. When this has been done, the next step is to FORMAT the hard drive. The hard drive Volume Name, which I called "IBMSYQ88," is also assigned at this time. Upon completion you will see a message that the "Disk Formatted Successfully" and that the "OPERATING SYSTEM" has been transferred. A message is also displayed that informs you of the total disk space and disk space available on the hard drive. Since a Syquest 88 megabyte drive was used there is 87,730,368 bytes of storage available after the operating system was transferred.

Next, the hard drive must be configured from the Dr. DOS master diskettes. After making some initial selections, you are presented with the Dr. Dos 6.0 main configuration screen. From this screen all selections for the different utilities are made. The system configuration is kept simple and enable only those items that you know will work. Utility software such as SuperStore and HIDOS are useful utilities. Programs such as TaskMax, DiskMax and ViewMax should not be run at startup. Initially, the system should be kept as simple as possible. The configuration process for installing Dr. DOS 6.0 will take approximately 30 minutes. When completed, all floppy disks should be removed from the drives. The system has now been fully prepared to boot from the hard drive.

If a screen advising you to insert a floppy into drive "A" is seen, this means that the

Bad or missing C:\DOS\HIMEM.SYS
Error in CONFIG.SYS line 1
Bad or missing C:\DOS\EMM.SYS
Error in CONFIG.SYS line 2
Bad or missing C:\DOS\MOUSE.SYS
Error in CONFIG.SYS line 3
Bad or missing C:\DOS\ANSI.SYS
Error in CONFIG.SYS line 4
Bad or missing C:\DOS\HDT.SYS
Error in CONFIG.SYS line 5
Current date is Thu 01-11-93
Enter new date (mm-dd-yy):
Current time is 4:23:23
Enter new time:

Microsoft(R) MS-DOS(R)
(C) Copyright 1988

The ATonce Plus offers IBM emulation and fully multitasks with the Amiga.

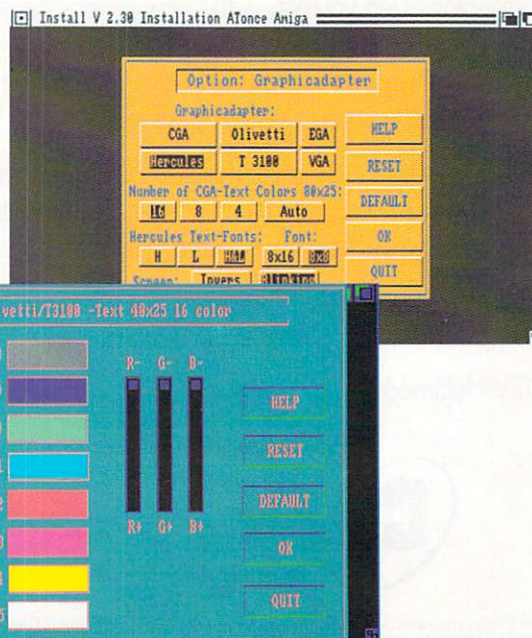


Table One: ATonce Plus Features

- ATonce-Plus is fully compatible with the ICD AdSpeed 68000 based accelerator
- CMOS 80C286-16 CPU, runs at full 16 MHz clock frequency
- 512K Vortex FAST-RAM. Special emulator RAM gives the ATonce-Plus a high system performance.
- Socket for optional 80C287-12 arithmetic co-processor.
- Highly integrated Vortex CMOS Gate Array which contains an interrupt controller and Memory Management Unit.
- Compact SMT (Surface Mount Technology) printed circuit board with very low power consumption.
- ATonce-Plus is inserted directly into the 68000 CPU socket. Installation is easy and solder free. The trap door and expansion bus facilities are free to use with other devices.
- AT compatible BIOS
- ATonce-Plus offers full 640K MS-DOS base memory without requiring additional RAM expansion (and A500 with 512KB is enough)
- Additional Amiga autoconfiguring memory can be used as IBM Extended or Expanded Memory.
- ATonce-Plus runs unrestrictedly in the Protected Mode.
- ATonce-Plus emulates the following video adapters:
 - EGA and VGA Monochrome graphics
 - CGA with full 16 colors
 - Hercules, Olivetti and Toshiba 3100.
- Fully multitasks with the Amiga computer.
- Complete integration of the internal 3.5" floppy disk drive as a 720 K MS-DOS floppy disk drive.
- Amiga mouse is available as a serial Microsoft Mouse that is selectable as COM1 or COM2.
- The Parallel interface becomes LPT1 under MS-DOS
- ATonce-Plus supports Commodore compatible hard disk subsystems.
- ATonce-Plus supports the Amiga real time clock and the CMOS RAM.
- Runs with all MS-DOS versions from 3.2 up to 5.0 as well as Dr. DOS 5.0 and 6.0.

configuration of the ATonce-Plus software is incorrect. Under the Options menu for Hard disk, the boot from "floppy" has been selected and not the boot from "hard drive." Return to this menu, change your boot selection, and reboot your Amiga. This time, when the ATonce-Plus software is started your emulator system should boot from the hard drive correctly.

The first DOS command performed should be the "CHKDSK," the check disk command. This command provides useful information regarding the hard disk structure. It will reveal any problems encountered with the hard drive. The command also advises the amount of disk space that has been used and the amount that is still available. The "CHKDSK" command is very useful and should be executed from time to time to check your storage capacity as well as the integrity of the hard drive.

Super Store

Earlier in the article I mentioned utility programs that come with Dr. DOS 6.0. One of these programs is called Super Store. Super Store is a disk compression program for IBM computers. This particular disk compression program performs approximately a 2 to 1 disk

compress of the hard drive.

At the "[DR DOS] C:\>" prompt, type in the program name of "SSTOR." This will begin execution of the program and present you with the main Super Store screen. Selecting "PREPARE" asks which drive is to be prepared as a Super Store drive. At the moment drive "C" is selected automatically since it is the only drive that is connected to the emulator system.

Next, Super Store asks if we would like to reserve some uncompressed space to be accessed as a different drive letter. I have elected to leave 100K uncompressed so that I have some space for programs that may have difficulty running on a compressed drive.

It is best to run the Super Store program with only Dr. DOS loaded on the hard drive because the more software that is previously loaded, the longer it will take to compress the hard drive. Just with Dr. DOS 6 loaded, it takes approximately 20 minutes to compress the Syquest 88 megabyte hard drive. This is so because of all the work that Super Store is performing and is not a result of the Syquest access time. When Super Store is exited, the first thing that needs to be done is a system reset of the emulator (CNTRL-ALT-DEL), so that the new disk structure will be recognized by Dr. DOS.

When the computer has been rebooted, the first command that should be performed is the "CHKDSK" command, which was previously mentioned. However, performing the command after compressing the hard drive will provide us with the compressed space of our disk drive.

The Syquest 44 and 88 megabyte units have really been workhorses. Since I have purchased them I have wondered how I was able to use my Amiga systems without them. They are really worth the price for which they are being sold. Also, the Syquest 88 can read the Syquest 44 cartridges; however, it cannot write to them. Overall, I have found the Syquest drives to be highly reliable workhorses that are easily interfaced to the Amiga system. Additionally, with the cartridge approach, it is the most cost-effective storage available on any system.

IBM Software

As a quick test I used three of the most important programs that I currently have to test on the ATonce-Plus, QUICKEN 5, TurboTax 9.0, and WINDOWS. Additionally, I have been able to run PageMaker 4.0 on the original ATonce product and see no reason it will not work with the ATonce-Plus.

The new 2.32 BIOS version that is supplied with the ATonce-Plus seems to have a better compatibility with standard IBM software than previous versions of the BIOS. Also, for those of you who will continue to keep the original ATonce hardware, you should remember that this new version of software also works with that unit as well.

Performance Comparisons

Performance tests, or benchmarks, are often misleading unless there is a performance standard. When IBM systems are discussed, the standard is the IBM PC. This was the first IBM PC that was widely sold. The performance tests that follow should not be looked at in that light. They should be compared against one another, as well as against the IBM PC. This will provide an insight into the new ATonce-Plus hardware and how it is superior to the original ATonce.

To test the performance of the ATonce-Plus, I located three public domain software programs that would test the performance of IBM systems. Also, I decided to use the Norton "SI" command from an old version of that program. To make the tests equally comparative, I ran these tests using the same ATonce-Plus software but with the different ATonce boards. I felt that by performing the tests in this manner, I would remove any bias in favor of the "NEW" emulator software versus the "OLD" emulator software.

Table 2**Syquest Performance Characteristics**

Performance	SQ555 (44MB)	SQ5110 (88MB)
Seek Times *(Typical)		
Track	78	msec
Average**	20	20 msec
Maximum	42	42 msec
Average Latency	9.32 msec	9.32 msec
Rotational Speed	3,220 RPM	3,220 RPM
Data Transfer Rate (from Buffer to Host)		
Asynchronous	10 Megabits/sec	10 MegaBits/sec
Synchronous	Sustained	32 Megabits/sec
Start-Time Spin Up	15 sec	15 sec
Stop-Time Spin Down	8 sec	10 sec
Interleave	1:1	1:1
Buffer Size	8K	32K

Physical Characteristics for SQ555 and SQ5110

Height	1.63 inch
Length	8.03 inch
Width	5.75 inch
Weight	2.75 lb

The first test that I performed was from a program called "SSE-V2." This test provides a nicely detailed chart illustrating comparisons from the original IBM PC, to the unit that is under test. The total timing result was closer to the 6MHz IBM AT. Here you can see a remarkable improvement in the operation of the unit. While the test advises that the unit is running a little bit better than an 8 MHz IBM AT, I can tell you that it feels as if the ATonce-Plus is running considerably better than an IBM AT.

The next test performed was from a program called PCTEST. Here again the results obtained were all relative to the Operation Times of an IBM PC. If you examine the results closely, you will see that the ATonce-Plus is faster in every category except the diskette operations. This statistic remains the same. The reason for this is the disk translation that the program is going through to read the IBM disks on the Amiga drives. Other than this, the increase in speed of the ATonce-Plus is apparent.

The final two comparisons were done using an early version of the Norton SI command that is provided with the Norton utilities. The Norton program is the most common source of testing the computing index of an IBM computer. It is the one that is most quoted throughout the IBM computing industry and is the one that is mentioned in the Vortex advertising.

Amiga Hardware Compatibility

As I mentioned earlier, Vortex listened to their customers' cries when designing the ATonce-Plus. Instead of including a 68000 processor, as they did in their original product, they allow you to use your original 68000 or to plug in a replacement processor. A perfect match for this board is the ICD ADSPEED. Not only will you see an increase in the speed of the Amiga side of the product, but many of the emulator processes that are passing through as Amiga tasks also are improved because of the doubling of the 68000 processor speed. However, there are pitfalls in the installation of this or any product besides the standard 68000 that

there is just no way to get around. That is the space consideration that is found in the Amiga 500. With the installation of the ATonce-Plus and a standard 68000 there is just enough room to place the metal cover back in place. Then the keyboard and front cover are placed together and the screws are tightened with the Torx screwdriver.

Adding an accessory of any kind raises the height of the standard 68000 as it is seated on top of the ATonce-Plus board. Raising the height will not allow you to place the metal shield back into your unit. Also, there is the factor of the keyboard. When the ADSPEED is installed it hits against the keyboard so that you cannot place the plastic front back onto your unit. The only answer regarding this point is that you will somehow have to extend your keyboard external to the Amiga 500. The only product of which I am aware that will perform this task is the KB Talker product from Co-Tronics Engineering for the Amiga 500 or 2000. This product will allow the use of a standard IBM keyboard externally with your Amiga 500 computer. If you also happen to use the ICD AdIDE interface you will be nearing the limitations of items that can be stacked in the Amiga 500. This AdIDE is a hard disk controller for an AT (IDE) type drive. It can really turn your Amiga 500 system into an enclosed unit. Plug in a 2.5" or 3.5" hard drive internally in your Amiga 500 by replacing your existing floppy drive and you will have an enclosed system. With the use of the "Shuffle Board," which will make an external drive your DF0: drive, you can be off and running with a powerful system.

However, I think I should mention a word of caution. There are such things as loading considerations with respect to Integrated Circuits that you must keep within certain tolerances. What this means in non-technical language is that the more you place into a single socket, the more load you will be placing on the overall bus structure of the system. This holds true for the Amiga 500 as well as the

Table 3**ICD AdSpeed Characteristics**

- 16MHz CMOS 68000 CPU clocked at 14.3MHz
- 100% instruction set compatibility with standard Amiga
- 32K of high speed static cache RAM built into interface
- Software switchable on the fly between the standard Amiga clock speed and two times the standard clock speed
- Optional Hardware switch to change clock speeds
- Detailed Instruction Manual
- Simple Installation

Amiga 2000. If you begin to see your system acting strange, it may be due to a loading of the microprocessor socket which would be the result of loading down the system bus which means that you have stacked too many options in the processor socket.

Another product to be added to your Power System is the DKB Software MultiStart II. This is a board that allows the insertion of either the 1.3 or 2.04 AmigaDOS ROMs in the system simultaneously. A new version of this board has just been released and you would think that it was tailor-made for the ATonce-Plus. The new MultiStart II board contains a ribbon cable that allows you to add the board through the ribbon cable connection, and then on the bottom of the board is tape which is used to tape the Multistart to the motherboard. The two sockets is the place where the 1.3 and 2.04 KickStart ROMs are inserted. The ROM which will always be considered to be the primary is closer to the ribbon cable. The one end of the DKB MultiStart ribbon cable is inserted into the ROM position. This allows the MultiStart Board to be placed in a remote position. In my Amiga 2000 I placed the MultiStart towards the right and back of the motherboard. I found that this position allowed for installation of the ATonce-Plus and MultiStart II with no physical problems.

However, a problem was encountered when everything was put back together. The system would not boot either to Amiga DOS 1.3 or 2.04. Troubleshooting this problem, I found that when the Power Supply chassis of the Amiga 2000 was screwed down to the main chassis, it was causing some type of interference preventing the system from booting. To solve this problem, I decided to remove the extra socket that was used while inserting the Vortex ATonce-Plus. Lowering the installation of the ATonce-Plus by approximately 1/16th" took care of the problem. I was able to boot Amiga DOS 2.04 from my hard drive and Amiga DOS 1.3 from floppy with no problems whatsoever.

I found that I liked the way that the DKB Multistart II operates. This board senses the amount of time in which you hold down the CNTRL/AMIGA/AMIGA. If it is held down for approximately five seconds, the secondary Amiga DOS is booted which in this case is 1.3. This board allows switching DOSs without reloading your entire hard drive with the new DOS. It is the type of board that will guarantee you compatibility with software as new versions of DOS are released. All that you will need to do is plug in the new ROM into the MultiStart II and your system will be off and running the new operating system.

Now the question that comes up is, is all the extra really worth it? In my opinion, a definite yes! Speed-up from the ADSPEED

handling the graphics from the IBM and the screen redraws are improved. After installing the ADSPEED in the Amiga 2000, the Power Supply/Disk Drive Chassis rests directly on top of the ADSPEED. You may have difficulty replacing the screws for the chassis, but with a little pressure it can be done. Note that I said a little pressure, not a great amount or you could cause damage to either the ATonce-Plus or the ADSPEED from ICD.

The two of these devices complement one another perfectly. There is an overall improvement from just using the ICD ADSPEED running in your Amiga 500. Add to all of this your

drives for the past ten weeks I have not experienced a single problem with any of the IBM software that I have tested. While I cannot attest to running every piece of IBM software I do have a varied collection and everything runs as though it were on a true IBM AT except faster. The Vortex ATonce-Plus product operates as advertised, is reasonably priced, and runs under DOS 1.3 or 2.04. Combining the ATonce-Plus with the ICD ADSPEED, and you feel as if you're running on a new computer system altogether!

Is the ATonce-Plus product worth the

Table 4

AdIDE/40 Kit Characteristics

- Designed specifically for Amiga 500
- Allows internal mounting of Quantum low profile hard drive in DF0: location
- Includes hardware to change Amiga 500 external drive to DF0: (Shuffle Board)
- Simple installation
- Detailed Instruction Manual
- Special ICD formatting software
- A compact and economical interface for IDE (AT) drives

new detachable keyboard in the Amiga 500 and it feels as if you have a totally new computer. With the addition of this hardware to your Amiga 2000, there is also a noticeable improvement. Also, after installing the AdSpeed in the Amiga 2000, I ran the IBM benchmark tests an additional time to see if the AdSpeed really increased the ATonce-Plus performance. On the Norton SI command the Performance Index increased to a 15.8 from a 15.3. Additionally, all of the other tests also showed improvement. This proved without a doubt to me that the addition of the AdSpeed also improved the operation of the ATonce-Plus.

All of these additions to your system can be made in systematic order so that the overall expense is spread over a period of time and not incurred all at once. If the expansion is being done on an Amiga 500, your first expense following the ATonce-Plus should be the KB-Talker. The final purchase is the AdSpeed since you need to remove the keyboard before installing the AdSpeed.

For the Amiga 2000 which already has an external keyboard, purchasing the ATonce-Plus first provides you with the IBM compatibility. Following this with the AdSpeed purchase would then improve overall system performance for both Amiga and IBM emulation.

Summary

How does the ATonce-Plus operate? Fantastically! Since I have been using the ATonce-Plus product with the ADSPEED and Syquest

money? Well, if you need to have the IBM compatibility, and need the number crunching ability of adding a math coprocessor, and need speed to get everything done within a reasonable period of time, then the ATonce-Plus is definitely for you. Do you also need an AdSpeed? Well, let's just say that it definitely improves the overall performance of anything that you are going to run in the Amiga computer. This means that you will even see an increased performance of the ATonce-Plus with an AdSpeed. The combination of these two products really create a fantastic Amiga.

At the end of the first ATonce article I said that the "ATonce is a phenomenal, fantastic, great product." Well, I rated the ATonce a 10 on a scale of 1 to 10. The new ATonce-Plus is a noteworthy piece of hardware and software whose performance is remarkable and absolutely unbelievable. This new ATonce-Plus rates a "20" on a scale of 1 to 10! It is bigger, but most definitely better, and well-worth the investment for your ability to run IBM software faster. Its superb hardware design and software compatibility will become the standard to which all future emulators will be measured.

•AC•

Please Write to:
Rick Mataka
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

DKB'S

SecureKey

by Richard Mataka

Most people never give security a thought until it's too late. Most likely never give security a thought because they use their machines in their home environment. However, with the Amiga making more and more inroads into the business market, security may become something of paramount importance. To protect your valuables, DKB Software company has created *SecureKey*, a hardware device for the Amiga 2000 and 3000.

Physical Aspects of SecureKey

The SecureKey is a hardware device that is about half the size of a standard Amiga card. It measures approximately 7" long by 2 3/4" wide and is installed in any of the Amiga 100 pin slots. If you are installing the device into an Amiga 2000, you have five slots to choose from whereas in the Amiga 3000 you have four slots to choose from. There is no need to remove the metal slot covers at the rear of the Amiga because of the short length of the device.

Software

The operation of SecureKey is straightforward. Once physically installed in your system, the first time you power up the Amiga you will be prompted to enter a new security code. This code will need to be entered twice as a verification of the system's new password. As a user, you should choose a password that

is familiar to you alone. Don't choose a password that is obvious and can be figured out easily. The password that you have just entered is now your system password.

Whenever your computer is turned on, the first thing SecureKey presents you with is an IFF screen demanding a password. You have three attempts to type the password in correctly before your computer will lock up requiring you to turn off the power and try again. If you type the password in correctly the first time, the system booting process proceeds as normal. Entering of a password occurs anytime that the system is booted.

Changing Your Password

Changing your password in SecureKey is a simple matter. First you must click on the Change Password box. Next you enter your old password for security verification. Once this has been accomplished, you need to enter your new password twice just as though you first installed SecureKey so that any typographical errors for the password are avoided. Also, the passwords that you enter are case sensitive so you must remember your upper- and lower-case letters. At this point, your new password is in effect until you decide to change it again. Once you have entered the password correctly, your system will proceed to boot normally to the workbench screen.

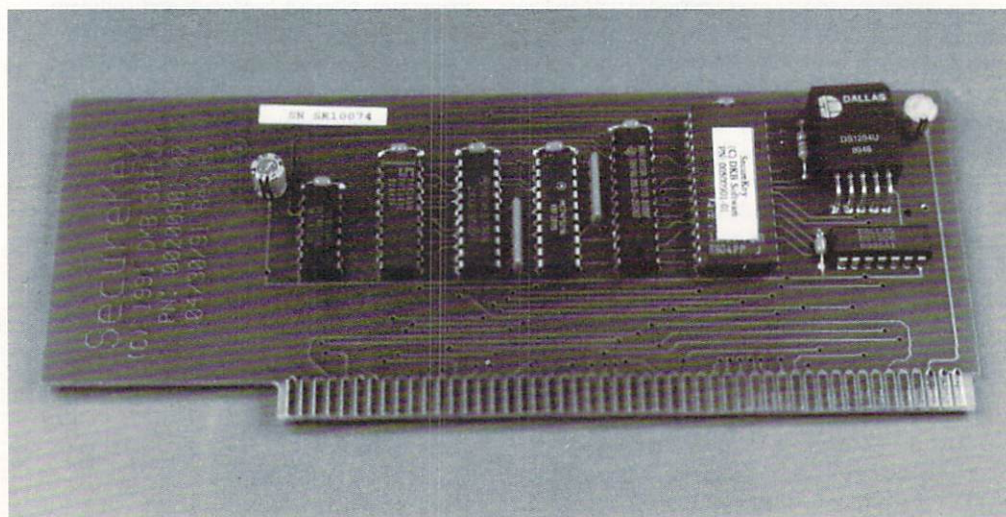
Summary

The one point that I found annoying about SecureKey is its operation with the Amiga 3000. When the Amiga 3000 loads its KickStart and Workbench from disk, the system automatically performs two resets. Since you are prompted for the password before Kickstart is loaded and again when the 3000 automatically performs a warm boot, you must enter the password twice upon powering up your Amiga 3000 system. Please note that this is *not* a problem with SecureKey but is the manner in which the Amiga 3000 currently boots. If you have Kickstart and Workbench 2.0 in ROM, this problem will not be encountered.

While SecureKey is not the best type of security device, it is the only physical security device available for the Amiga today. A security device that combines disk encryption security as well as local access security would be the ultimate secure device. SecureKey fills a void in providing the local access security to your Amiga computer. SecureKey is a physical plug-in board, and I could find no way to defeat the security provided by the board as I tried different variations of password attempts from the keyboard.

Especially interesting will be the number of SecureKey devices that will be sold to businesses or to homes with small children as everyone becomes increasingly security conscious. Its reasonable price, easy installation, and simple operation provide a unique opportunity to place secure Amigas in the business world. That is no matter if the business is being conducted at a Madison Avenue address or from the small room in your home. SecureKey is an invaluable device providing security and giving you the comfort that only you can access your computer system.

•AC•



SecureKey
Price: \$124.95
DKB Software
 50240 W. Pontiac Tr.
 Wixom, MI 48393
 (313) 960-8750
 Inquiry #207

Please Write to:
 Richard Mataka
 c/o Amazing Computing
 P.O. Box 2140
 Fall River, MA 02722-2140

"We had the sky, up there, all speckled with stars, and we used to lay on our backs and look up at them, and discuss about whether they was made, or only just happened."

— Mark Twain, *Huckleberry Finn*

Star-gazing has always been one of mankind's favorite pastimes. Since the dawn of the species, humans have looked up at the stars in wonder and amazement. In the past few hundred years, part of that wonder and amazement has given way to understanding and exploration, with the last century being particularly prolific in adding to our knowledge of the stars.

Amiga owners haven't been left in the dark when it comes to learning about the cosmos, thanks in part to several useful public domain astronomy programs and the popular commercial astronomy program, *Distant Suns*. Currently published by Virtual Reality Laboratories and designed by Mike Smithwick, *Distant Suns* has been frequently updated and improved (Version 3.0 reviewed in AC v5.4). Initially entitled *Galileo* and marketed by the now defunct Infinity Software, *Distant Suns* has been lauded by renowned science-fiction author Arthur C. Clarke, praised by the Amiga press (winning the 1989 *Amazing Computing Reader's Choice Award* for Best Educational Program), and deemed the "Most Innovative Product" of the 1988 Consumer Electronics Show. Obviously not satisfied to rest on their laurels, VRL and Mike Smithwick have released *Distant Suns 4.0*.

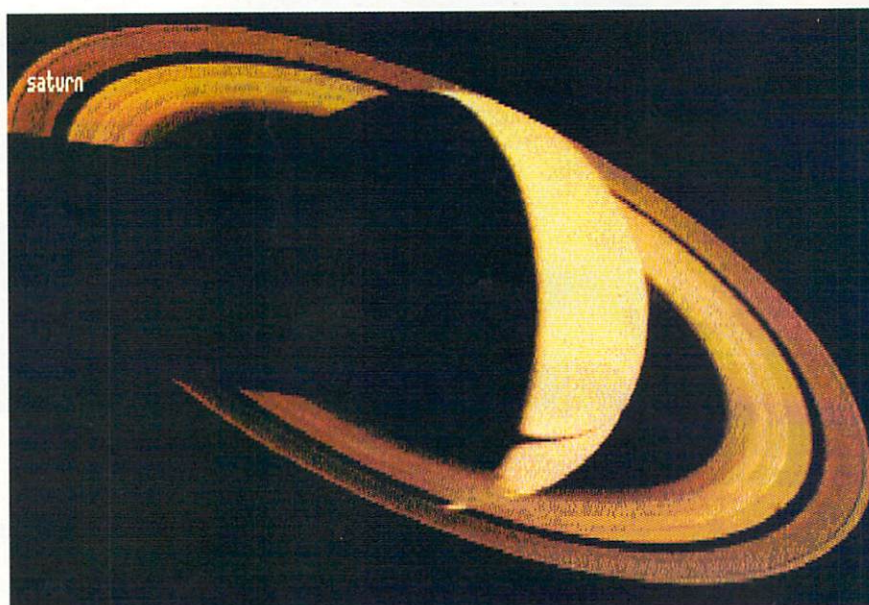
The manual by the programmer Mike Smithwick explains that *Distant Suns 4.0* is a "complete rewrite of the original." Smithwick also states that most of the new options in this version came about because of customer letters. He must have received quite a few of those missives, as *Distant Suns 4.0* boasts an impressive new features list. Now released in four separate versions (one for AmigaDOS 1.3 users, one for AmigaDOS 2.0 users, and an FPU version—which supports a math co-processor—for both), *Distant Suns 4.0* displays a slick new interface and considerably faster screen redraws than its progenitor.

Of all of the new features in *Distant Suns 4.0*, three stand out as being particularly noteworthy: the new viewpoint option, the new animation toolkit, and support for ARexx. The viewpoint option is simply a marvel. In *Distant Suns 3.0*, users were confined to looking at the universe from the limited perspective of standing on the earth and looking up into space. The new viewpoint feature allows the user to break the surly bonds of earth and zoom out to a nearly infinite number of new viewpoints from which to observe the uni-

VIRTUAL REALITY LABORATORIES'

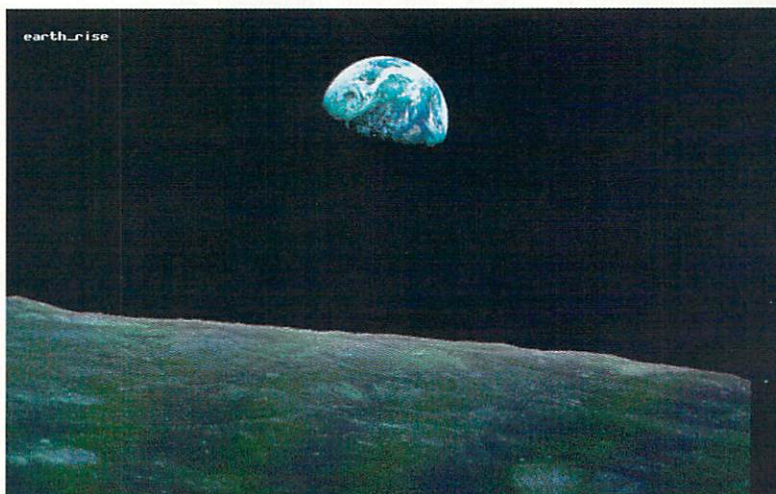
Distant Suns 4.0

by Jeff James

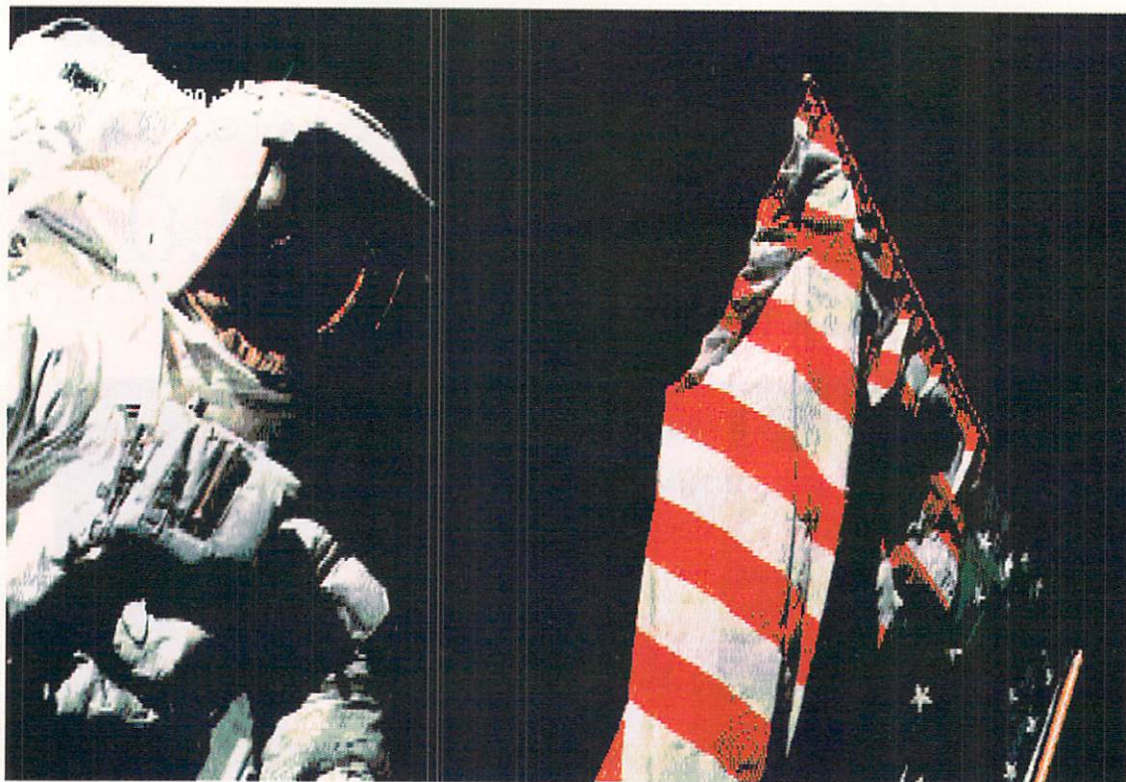


verse. While you're basically confined to the solar system itself, the viewpoint option lets you see our solar system as a visitor from another galaxy might see it. The included viewpoint preferences allow you to toggle on and off orbit trails, a grid for measuring distances, and indicators which display the vertical depth or height of an object's orbit. It seems that the new animation features were designed to work hand in hand with the new viewpoint options. Just as mentioned previ-

ously, you can use the viewpoint command to look at the solar system from a new frame of reference, such as looking down upon the inner planets as they orbit the sun. With the new ANIM toolkit, you can record the orbits of the planets in an IFF-ANIM format animation and show off your celestial cartoon to your friends. A boon for educators, the new ANIM toolkit allows quick and painless creation of animations to demonstrate astronomical phenomena far better than books or lectures can.



Above:
Saturn and
her
impressive
rings. Left:
Earthrise
from the
moon.



Distant Suns 4.0 comes equipped with an assortment of incredible images of famous moments in space exploration.

Imagine recording the orbit of Halley's Comet, scrunched from its chronologically lethargic 76-year circuit around the sun into a brisk 60 seconds. Simply dump the completed animation to tape and you've created an excellent visual aid for teaching purposes. Although Distant Sun's new animation tools are a far cry from those contained in *DeluxePaint IV* or *Imagine* and although you can import Distant Suns ANIMs into either program to give them a facelift, ANIMs nevertheless add immeasurably to the usefulness and enjoyment of Distant Suns.

While the new viewpoint options and animation controls are a bonus, the inclusion of ARexx into Distant Suns 4.0 enhances the program's flexibility even further. With ARexx support, Distant Suns 4.0 can now communicate with other programs and devices. The manual offers several suggestions for using ARexx, such as having Distant Suns control a telescope, or teaming it with AmigaVision and a touch screen to control a museum exhibit on astronomy. A sample script is included which admirably displays the effectiveness of teaming all three of these powerful features (viewpoint, animation, and ARexx). When executed, the script creates an animation of Halley's

Comet as it loops around the sun, all while the viewer's viewpoint races under and around the solar system to track the course of the comet as it heads out of the solar system. While the graphics weren't too detailed, the overall effect of appearing to zoom through the real solar system was mesmerizing.

In addition to the slick new interface, Distant Suns will now run in interlaced hi-res (640 x 400), allowing Amiga owners with display enhancers, such as A3000 and flickerFixer owners, to see a crisper view of the heavens. Distant Suns 4.0 also moves the control panel from the immovable strip it resided on in Distant Suns 3.0 (similar to DPaint's toolbox) to a standard window which can be closed via a close gadget or moved freely about the screen. The nearly ubiquitous "look-up-the-word" copy protection from Distant Suns 3.0 has been eliminated, and hard disk installation is a snap. Most of the program is also customizable, allowing users to edit the landscape (perhaps to closely match your local geography), create orbits of new stars, comets and asteroids, fashion their own charts and text tables, and add their own object image data.

Speaking of image data, new to Distant Suns is the Full Screen Image option, or FSI. Scanned directly from NASA originals, more than two dozen IFF pictures are included with the program, consisting of images from most of the planets and some of their moons. If 27

images aren't enough, VRL offers what they call "Space Visions," a 25-disk, 246-image collection of planets, stellar objects, and human space exploration. Consisting of 12 sets of disks, ranging in cost from \$7 to \$20 each, the entire collection can be purchased directly from VRL for \$70. Astronomy aficionados will enjoy "Space Visions" the most; less-dedicated stargazers may be better off by simply adding their own space images culled from the public domain.

The program has a slew of other useful options, such as an ephemeris data generator, an IFF-screen grabber, mercator-projected star charts, meteor shower information, and 13 types of displayable

star data. Distant Suns 4.0 even features a "twinkle" option for you Amiga-using romantics, which simulates the flickering effect the Earth's atmosphere adds to starlight. Yet for all of the new features, Distant Suns 4.0 has a few shortcomings. First of all, the program is still slow. While the delay is understandable given the sheer amount of number-crunching that Distant Suns must undertake every time the screen must be redrawn, serious users would be wise to invest in more RAM, a faster CPU, and a brisk hard drive to really make Distant Suns 4.0 fly. Distant Suns 4.0 will run on a basic Amiga 500 with 1MB of RAM and dual floppy drives, but it's akin to pulling a trailer with a Yugo—slow going. [See below for upgrades to 4.0 for 3.0 owners.—Ed.]

If you happened to purchase add-on diskettes for Distant Suns 3.0, such as those reviewed in AC v6.2, you'll discover that they won't work with the new version. Fortunately for those users, a spokeswoman at VRL informed me that they will update free of charge those data disks to work correctly with the new version. While most of Distant Suns 4.0 features plenty of keyboard shortcuts, I found

Chinese



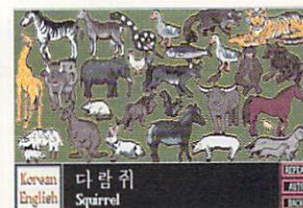
Japanese



English



Korean



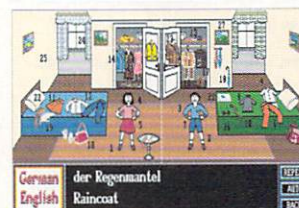
French



Russian



German



Spanish



Testimonials from Audio Gallery Users:

Excellent overall, good vocabulary, good sound quality...Some of the best language products I've used! *Westminster, CA.*

It is really more than just a dictionary. I would have bought this much sooner had I known how in depth it is. As a Foreign Language teacher, I really appreciate it. This is a very high quality product...one of the first computer FL programs to use current FL methods. *Ankeny, IA*

Enclosed is the demo disk I ordered from you several weeks ago. I would now like to order the whole German Disk Set...I am very impressed with the quality of the graphics of this program and am excited about receiving the entire program. *Gainesville, GA*

Wowee! The Spanish Audio Gallery Demo Disk is wonderful. Words can't describe how pleased we were with the sample. What a great learning tool. Please let us know when you have available Spanish Audio Gallery # 2...Thanks again for such a wonderful product. You have a winner on your hands. *Bartonville, IL*

We searched for a good Spanish program...this is the first - much liked. *Derby, IN*

I am very impressed with the use of digitized speech of native speakers that is used in your software. *Cedar Rapids, IA*

Love it - will be used in conjunction with course being taken on compact disk. *Ottawa, Ontario*

- * All words and phrases Fully Digitized Speech
- * Includes Dictionary, Pronunciation Guide, Quizzes
- * 25-30 Topics such as Weather, Numbers, Food, etc.
- * For the Student, Traveler, Businessman, etc.
- * Seven-Disk set includes Comprehensive Manual

FairBrothers, Inc.

5054 S 22nd St.

Arlington, VA 22206

(703) 820-1954

FAX (703) 820-4779

European Languages: \$89.95

Oriental Languages: \$129.95

Please specify language when ordering. Free brochure available. Send \$5 (rebated on regular purchase) for Demo Disk (specify language). To purchase, send check or money order. All orders shipped UPS Ground. Add \$5 for UPS Blue or COD. Canadian orders add 20% if paying in Canadian Dollars. Most Institutional Purchase Orders accepted.

that to change the screen magnification, or "field of view" in astronomy lingo, I had to use either a pull-down menu or an icon on the control panel. While these are entirely usable, a keyboard equivalent for this feature, such as the + and - keys, would be welcome. Speaking of the control panel, I find that it would be ideal if you could change the date, time zone, and time rate simply by clicking on the values in the control panel instead of having to wallow through the pull-down menus to find the environment option. The 94-page spiral bound manual is a joy to read, although I would have liked to see the several tutorials—where Mr. Smithwick uses Distant Suns to demonstrate astronomical events—boxed or shaded to be easily read apart from the main text. Humorous yet succinct, the manual is packed with educational information, although it strangely lacks a glossary. I'm feeling the urge to create a "Distant Suns 5.0 Wish List," so here goes. Although the flashcard option is great for learning about constellations, it would be even better and more attractive for classroom use if it could quiz users on such other topics as the location of planets, stars, galaxies, and other stellar objects. The new viewpoint options are fantastic, but I would have liked to see a greater degree of detail in most of the planets. I wanted to zoom in on Saturn and see its attendant moons whirl about its famous rings, but Distant Suns unfortunately doesn't show the satellites of any planets other than the Earth's moon. Both Saturn and Jupiter have a large number of satellites, such as Io, a volcanically active moon of Jupiter, and Titan, a moon orbiting Saturn, which is nearly as large as the planet mercury. The FSI included with Distant Suns 4.0 alleviated some of my curiosity, but Distant Suns simply made me want to see more.

With the size of my wish list, it may seem that Distant Suns 4.0 is lacking some impressive features, which couldn't be farther from the truth. I wanted to zoom close enough to Jupiter to watch the enigmatic red spot swirl and roll, or see the seasonal changes in the atmosphere of Mars, or look at the Earth from the Moon and see it as the Apollo astronauts did. Distant Suns 4.0 kindled my imagination, forcing me to take a trip to the local library for an armload of books on astronomy and space exploration. Distant Suns encourages learning and excites the imagination, a feat that some so-called "educational" programs are hard-pressed to do.

I did have the opportunity to get a quick look at a pre-release version of Distant Suns 4.1, which features noticeably faster star-rendering times, a reworked clock control window for smoother animation creation, and several other enhancements. Distant Suns 4.1 should be available as you read this.

Remarkably powerful and astonishingly easy to use, Distant Suns 4.0 is undoubtedly one of the most fascinating pieces of software ever released for the Amiga. Educational and useful to the astronomy buff while simultaneously entertaining and enlightening to the star-gazing neophyte, Distant Suns 4.0 is a must-buy marvel. [Note: Virtual Reality Laboratories is offering an upgrade to Distant Suns 4.0 for Distant Suns 3.0 users. Send your original Distant Suns 3.0 disk and a check for \$30 to Virtual Reality Laboratories and they'll mail you the new version.]

•AC•

Distant Suns 4.0

Price: \$99.95

Virtual Reality Laboratories

2341 Ganador Court

San Luis Obispo, CA 93401

(805) 545-8515

Inquiry #205

Please Write to:

Jeff James

c/o Amazing Computing

P.O. Box 2140

Fall River, MA 02722-2140

Circle 130 on Reader Service card.

MOONLIGHTER SOFTWARE
DEVELOPMENT'S

Ami-Back

by Jeff James

Anyone who has ever used an Amiga on a regular basis has undoubtedly experienced the irritation of trying to use a defective diskette. In such cases, your disk drive begins making a loud "gronking," raising such a clamor that you think it might leap from your Amiga and onto your lap. While your drive is undergoing this spasm of mechanical gymnastics, an enigmatic requester appears on your Workbench screen stating that the "disk in drive df1: not validated" or "not a DOS disk in device df0:." Bad floppies are an inconvenience, but several utilities exist, such as *DiskSalv*, *Dave*, *Haynie's* excellent shareware program, and *Quarterback Tools*, a commercial offer-

ing from New Horizons, to repair, recover and restore your data. After all, floppies hold only a comparatively small amount of information.

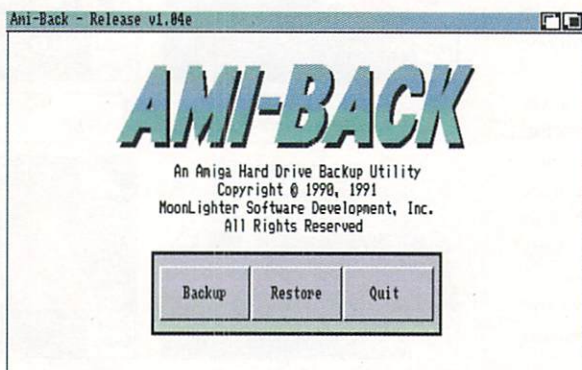
Far more dangerous and ulcer-causing than a defective single floppy, is the failure of a hard drive. A crashed hard drive is guaranteed to cause more distress than the single failure of a floppy disk ever could. As with nearly everything, using a hard disk is a series of compromises. With the convenience, speed, and storage capacity of a hard disk comes greater expense and a more pressing need for protection of your data. Thankfully, there is a large variety of hard drive backup utilities available for the Amiga, of both a commercial and freely distributable nature. *Ami-Back*, from Moonlighter Software Development, is a new entrant into this burgeoning market for hard disk backup utilities.

Ami-Back ships on the distribution diskette in two versions: one for AmigaDOS 1.3 and another for AmigaDOS 2.0. Hard-drive installation for both is equally straightforward, thanks to the included installation program. Simply clicking on the hard drive installation icon transfers *Ami-Back* and all its attendant files to your hard disk. After installation, *Ami-Back* can be started from the Workbench or through the venerable CLI.

After booting *Ami-Back* for the first time, I was presented by a series of requesters informing me that the program's backup and restore configurations needed checking. Because of the myriad of system configurations available, Moonlighter elected to bypass adding a default configuration setting. After clicking away the requesters, those two configurations can be edited, along with a general program configuration and one for the included backup scheduler, by accessing the menu options in the edit

Setting Things Up

Ami-Back allows you to schedule regular backups. You can also schedule incremental backups.



Ami-Back Schedule Configuration

Months Per Year				Days Per Month							Days Per Week					
Jan	Feb	Mar	Apr	1	2	3	4	5	6	7	Sun	Mon	Tue	Wed		
May	Jun	Jul	Aug	8	9	10	11	12	13	14	Thu	Fri	Sat			
Sep	Oct	Nov	Dec	15	16	17	18	19	20	21						
				22	23	24	25	26	27	28						
				29	30	31										
Hours Per Day				Configuration 1							Minutes Per Hour					
0	1	2	3	4	5								0	5	10	15
6	7	8	9	10	11								20	25	30	35
12	13	14	15	16	17								40	45	50	55
18	19	20	21	22	23											
Save						Default Settings							Cancel			

AmiBack allows you to schedule regular backups. You can also schedule incremental backups.

menu. The opening screen displays the spare and intuitive design used throughout most of Ami-Back; three large rectangular buttons dominate the center of the screen, allowing the user to proceed to backup or restore operations, or to simply exit the program. Once the configuration options are set, Ami-Back checks those configuration files the next time it is started, allowing the user to proceed directly to the desired program function without delay.

Before any backups can be done, however, the program, as the previously mentioned requesters pleasantly reminded me, must be configured for your particular hardware setup. In the edit backup configuration screen, source and destination drives are selected, as well as one of five primary archive types. These include Complete, which is the most common format. This option simply copies all of the files and directories from the designated source drive to the destination devices. Incremental by date and incremental by archive bit formats allows selective backup of files by a specific time forward, and files changed since the last backup, respectively. The Selective backup format allows the most precise control by permitting individual files and directories to be selected. The last backup type, Image, is technically the most intriguing. Useful for archiving non-AmigaDOS partitions, such as UNIX, AMAX, and BridgeBoard hard disk data, Image backup offers the unique feature of backing up this media to both other hard disks as well as standard removable media, such as floppy disks. Also present on the backup configuration screen are button-driven options to select source and destination drives, inclusion

The multi-device backup/restore option allows several partitions to be archived at once.

and exclusion of directories, and an option to verify the data being archived. The file exclusion filter (FEF) allows Ami-Back to selectively skip certain files and directories. Inputting "#?.info" into the FEF would force Ami-Back to skip all files ending with the .info extension during backup.

The restore configuration screen is the companion to the backup screen, letting the user define how the data will be restored. Controls present here include options to write-over, skip or rename duplicate files discovered during the restore process, to use original or system file dates, and to set file protection bits. All of these options, on both screens, are accessed by a interface which was clearly written

with *The Amiga User Interface Style Guide for AmigaDOS 2.0* in mind. In addition to being accessible via the mouse, nearly all of this program's features can be toggled by a healthy dose of keyboard equivalents. Ami-Back completely supports multitasking, as well.

Ami-Back supports an impressively wide range of backup devices, from 880K floppies to monstrous SCSI tape drives capable of holding hundreds of megabytes of data. Ami-Back accesses many devices of the latter category by using what Moonlighter terms "SCSI direct commands." Obviously useful primarily with SCSI tape drives, this modus operandi allegedly allows Ami-Back to communicate with a wider range of devices at greater speeds, all

Ami-Back Benchmark Tests

The following benchmarks were performed on a Amiga 3000-16/50 with 4 megabytes of RAM (two of which were chip RAM), a stock Quantum LP52S hard disk and two floppy drives, designated df0: and df2:. I ran the tests under AmigaDOS 2.04 (KickStart version 37.175; WorkBench version 37.67) with no other tasks running. The version of Ami-Back tested was version 1.04e.- Jeff James

BACKUP TYPE	SOURCE	BYTES	FILES	TIME	#DISKS
Complete (verify on)	Work:	38,272,325	1,331	58.41	43
Complete (verify off)	Work:	38,272,325	1,331	30.28	43
Image (verify on)	Work:	43,853,824	N/A	1:05.38	49
Image (verify off)	Work:	43,853,824	N/A	35.04	49
Complete (verify on)	System2.0:	5,051,716	568	7.52	6
Complete (verify off)	System2.0:	5,051,716	568	4.13	6

The BASIC For The Amiga!

One BASIC package has stood the test of time.

Three major upgrades in three new releases since 1988...
Compatibility with all Amiga hardware (500, 1000,
2000, 2500 and 3000)...Free technical support...
Compiled object code with incredible execution
times...Features from all modern languages
and an AREXX port... This is the
FAST one you've read so
much about!

F-BASIC 4.0™



F-BASIC 4.0™ System \$99.95

Includes Compiler, Linker, Integrated
Editor Environment, User's Manual, & Sample Programs Disk.

F-BASIC 4.0™ + SLDB System \$159.95

As above with Complete Source Level Debugger

Available Only From: DELPHI NOETIC SYSTEMS, INC. (605) 348-0791

P.O. Box 7722 Rapid City, SD 57709-7722

Send Check or Money Order or Write For Info. Call With Credit Card or C.O.D.

without requiring mounting of the tape drive or any special driver software for the backup. I unfortunately didn't have a tape drive to test this feature, although an acquaintance of mine did test the program with his GVP WT-150 tape drive and had satisfactory results.

Getting Things Done

I did thoroughly test the program with my own configuration, however, using several of Ami-Back's backup types for comparison. (See accompanying table.) Using any of the backup types while using the verify option naturally took nearly twice as long in all cases. Ami-Back does include the ability to log errors during backup to a file or to an output device, such as a printer. Please note that this review was not meant to be a comparative review of Ami-Back with any of its competitors.

A few of Ami-Back's other features deserve some mention at this point. The multi-device backup—restore option allows several partitions to be archived at once, making the task of protecting diverse bits of data on a massive hard disk a little easier. Accompanying the Ami-Back program itself is *Ami-Sched*, the Ami-Back scheduler, which allows the user to make unattended backups of important data. UNIX grognards will find using *Ami-Sched* fairly intuitive, as *Ami-Sched*'s schedule configuration setup is very similar to the UNIX "cron" file entry system. *Ami-Sched* will be

welcome to Amiga users tired of slogging through lines of script files to automate backup processes. *Ami-Sched* is the epitome of point-and-click simplicity.

Ami-Back, even with its slick interface and impressive suite of features, does have some shortcomings. One irritation occurs during the actual hard disk backup. The program will automatically go to the next available floppy drive when the media inside one is filled; yet the program has no visible flash or beep to inform you that a disk is ready to be changed. There is a warning option that flashes the screen and beeps when the program has no empty diskettes to copy to; yet I feel that a notice from the program when a diskette is full and ready to be removed would have been more effective.

I had also hoped for a data compression option that would allow more than 880K to be stuffed on a standard 1MB capacity DSDD diskette. Frugal Amiga owners who need to squeeze the most storage out of every diskette won't have long to wait, however. A spokesman at Moonlighter informed me that they intend to add such a feature in a future revision.

I initially had problems running *Ami-Back* on a Amiga 3000 with AmigaDOS 2.0. Moonlighter's ads proudly state that *Ami-Back* is fully AmigaDOS 2.0 compatible, although I discovered to my dismay that it wouldn't work

with the version of AmigaDOS 2.0 I had. The AmigaDOS 2.0 version of *Ami-Back* requires a version of Kickstart later than 37.175. An upgrade of AmigaDOS solved the problem, but Amiga 3000 owners with earlier versions of AmigaDOS 2.0 should upgrade as soon as possible. As of this writing, the final five-disk update for AmigaDOS 2.0 on the A3000 (AmigaDOS 2.04) is readily available at most Amiga dealers.

I did try Moonlighter's technical support on several occasions, and all of the assistance I received was of an excellent nature. Moonlighter's support BBS is a boon, allowing registered owners to get the inside track to program updates and other information. While the telephone tech support and BBS were of excellent quality, I feel the documentation included with *Ami-Back* could use some fine-tuning. The manual I received with the program was written for version 1.02, with several read.me files for versions 1.3 and 1.4 on the program diskette. A fairly useful manual, it could benefit from a few screenshots, a glossary, and a table of contents. There is an overabundance of font types and styles used in the documentation, making it somewhat challenging to read.

The Verdict

Fortunately, *Ami-Back*'s list of vices is far shorter than its list of virtues. After I upgraded to the latest version of AmigaDOS, *Ami-Back* performed flawlessly, and its intuitive and uncluttered interface design was a joy to use. Operation of all aspects of the program, including the scheduling program, *Ami-Sched*, was straightforward and smooth, and *Ami-Back*'s retail price of \$79.95 places it squarely in the midst of its competitors products. In a crowded market full of challengers, *Ami-Back* more than holds its own.

•AC•

Ami-Back v1.04e

Price: \$79.95

Moonlighter Software Development
3208-C East Colonial Drive, Suite 204

Orlando, Florida 32803

(407)-384-9484

Inquiry #201

Please Write to:

Jeff James

c/o Amazing Computing

P.O. Box 2140

Fall River, MA 02722-0869

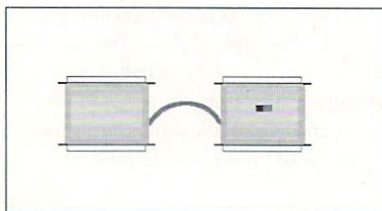
Utilities Unlimited of Oregon, Inc.

1641 McCulloch Blvd. Suite 25-124
Lake Havasu City, AZ 86403
602-680-9004

CANADIAN ORDERS:

PO BOX 311
Stratford, Ontario, Canada N5A 6T3
(519) 272-1528

SYBIL



\$99⁹⁵

SYBIL is a multi-talented hardware/software package. Just look at a few of SYBIL's amazing abilities:

- AMAX II Patch** - Turns one or more of your Amiga drives into a MAC compatible drive while using AMAX! Allows Reading and Writing REAL MAC format with normal Amiga drives! This patch also disables drive clicking, allows the use of AE High Density drives, allows control panel configuration to be saved, eliminates the need for the cartridge to be installed (saving power), and more!
- Disk Compress** - Compress entire disks into AmigaDOS files! These files can be transferred to hard drives, tape backup units, modems, or any other means of data transfer. When needed, the file can be de-compressed back on to a floppy so the program can be used. Works with ALL disk formats, copy protected or not!
- DiskConverter** - Convert MAC disks to AMAX format, AMAX disks to MAC format, copy MAC disks, or copy AMAX disks. Fast, reliable as easy to use!
- Disk Copier** - A special version of the Super-Card Ami II software was created to use SYBIL's superior copying abilities. Eliminates ALL drive speed conflicts! Now with Parameters for removing "code wheel" and "manual" protection schemes.

Super-Card Ami II

This hardware/software package allows you to make backups of your copy-protected software the same day you buy them! NO WAITING FOR PARAMETERS! The software is straight forward and easy to use. Amiga, IBM, Mac, and Atari ST disks can easily be copied regardless of the copy-protection scheme! The user interface is a delight for novice users to operate, and has all of the features that advanced users demand.

Super-Card Ami II came about after two years of expensive research and development. Now, due to the overwhelming success of this product we are able to offer this amazing backup system at a lower price! Now you can own a HARDWARE copier for less than most software copiers!

\$49⁹⁵

We now have PARAMETERS! Now you can remove documentation style (code wheels, manuals, etc.) and disk based copy-protection. As a bonus, you can install many programs on your hard drive! This truly is the last backup system you'll ever need!

Super-Card Ami II Utility Package

This unique software package offers the latest in high tech disk analyzation and manipulation. Features include:

- MFM Editor/Analyzer** - Allows user to view, analyze, and alter the actual data stored on a disk's surface!
- Drive Alignment** - Checks your disk drive for proper track to track alignment.
- Copier Construction Set** - Allows you to create your own custom Copier Files for use with Super-Card Ami II or SYBIL.
- Drive Speed Check** - Checks rotational drive speed.

\$29⁹⁵

Ami Super-Tracker

Have you ever wondered WHERE problems tracks are located? Now, with Super-Tracker you can tell! This attractive digital track display simply plugs into the last disk drive or directly into the Amiga's drive port.

The physical head location (track), and the current head (top or bottom) is displayed.

No serious Amiga archiver should be without one!

\$59⁹⁵

KickStart+ Board

Kickstart 2.0 is finally a reality! What is also a reality is that a lot of commercial software will not run under OS2.0! This is not the fault of Commodore, the problem lies with the programmer. In any event, you are stuck with software incompatibility. NOT ANYMORE! The KickStart+ Board allows you to have two different KickStart ROM's in your machine at the same time! Installation is easy! Just remove your existing ROM from your Amiga and place it on top of the KickStart Board. Now, plug the KickStart+ Board into where your ROM was originally. NEW electronic switching allows selection of the 2nd ROM by the mouse button(s), keyboard, or joystick (user selectable)! Works with ALL Amigas that have KickStart on ROM.

\$49⁹⁵

ORDERING INFORMATION: We accept VISA and MASTERCARD, C.O.D., Money Orders, and Personal Checks. Add \$5.00 per order for shipping & handling. Add an additional \$4.00 per order for C.O.D. Add an additional \$3.00 for ALL foreign orders. Add an additional \$5.00 for UPS Blue (2nd Day). ALL prices in U.S. funds! Please allow 3-4 weeks for delivery! Product specifications are subject to change without notice!

Building an Amiga MIDI Interface

by John Iovine

MIDI is an acronym for Musical Instrument Digital Interface. MIDI is a standardized communication protocol that allows various electronic music synthesizers to be linked to one another. It's a marriage of computer technology to music synthesizers. For this month's project, we will build a MIDI interface for the Amiga 500, 2000, and 3000 computers. The MIDI interface is compatible with commercial music software that supports MIDI synthesizers with MIDI ports.

To trace the evolution of MIDI, we must start with electronic synthesizers. Electronic synthesizers in general have opened a whole new world of possibilities for music enthusiasts and artists. Aside from the synthesizer's ability to accurately mimic traditional instrumental sounds, they have the added ability to generate new colors of sound never seen before. The possibilities do not end here.

Inasmuch as synthesizers are a boon to musicians, with MIDI they are better. The most obvious advantage is the ability to play and control several synthesizers at once from a single MIDI-compatible instrument (Figure 4). Each synthesizer in the system can be programmed to play a different instrument that plays a single track of a multi-track musical composition. Musical parameters such as tempo, volume, pitch, and patches can also be controlled and changed via MIDI.

Today a composer can listen to music he has written without the need to keep musicians hanging around to play a piece or wasting costly studio time. It was not always this way. As different manufacturers made their own synthesizers, a problem arose. Connecting sequencers and synthesizers from different manufacturers didn't work. Since each company had developed its own communication protocol, a universal protocol was in need.

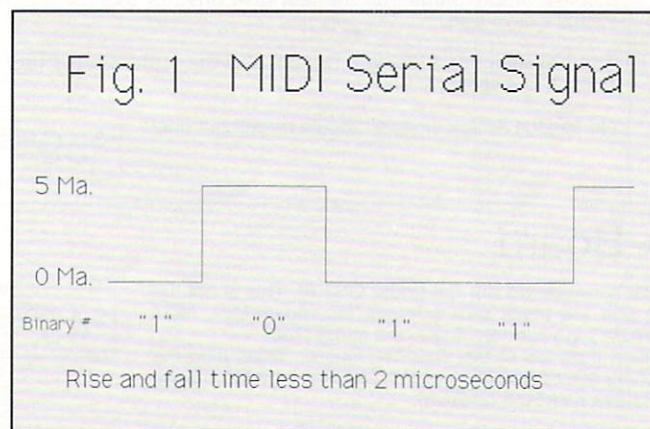


Figure One:
The MIDI Serial Signal transmits bits like a standard serial line.

Anatomy of the MIDI Signal

The first thing we notice about a MIDI signal is that it appears to be a standard serial signal. A serial signal as we know needs only two conductor wires to communicate. The second observation is that the communication speed is 31,250 baud $\pm 1\%$. Compare this to your typical 1200-2400 baud modem and you can better appreciate the speed. Take a look at Figure 1, the MIDI serial signal. The signal transmits bits (binary ones and zeros) like a standard serial line. But upon closer examination, you'll see a very significant difference.

Computers use TTL (Transistor-Transistor-Logic) signals. Where +5 volts represent a binary "1" and 0 volts represent binary "0". With MIDI, however, voltage is not used to determine the binary state of the line; current is. MIDI uses a 5 milliamp current loop for signalling. In addition, the signaling is opposite of what you would expect using TTL signals. In other words, "current off" equals binary "1" and "current on" equals binary "0".

Anatomy of the MIDI Bytes

Eight bits to a byte, well that hasn't changed. MIDI uses two types of bytes: Status and Data. As we know, or, as we should know, a byte can contain any single numeric value between 0 and 255. MIDI, however, breaks up the byte into small groups of bits and assigns a particular function to the bit group. To clear this up before it gets confusing, let's analyze the first byte in a MIDI message called the Status byte (Figure 2).

Status Byte

The Status byte is broken into three groups. Each of these groups is looked at as a single number. The first group consists of a single bit, (bit number 7). Group 1 has two possible values 0 or 1. The second group consists of the next three bits, (bit numbers 6, 5, and 4). Group 2 has eight possible values (0 through 7). The third group comprises the four remaining bits, (bit numbers 3, 2, 1 and 0). Group 3 has 16 possible values (0 through 15).

This is how MIDI interprets the data in a Status Byte:

Byte # 1	Status Byte
Bit #	7 6 5 4 3 2 1 0
Binary Value	1 0 0 1 0 0 1 0
	^
	Indicate Status Byte

If the most significant bit (number 7) has a value of "1", MIDI determines that it is reading a status byte rather than a data byte. The second group of bits—bits 6, 5, and 4, specifies the kind of message the status byte is transmitting. It may be note on, note off, patch change, etc.

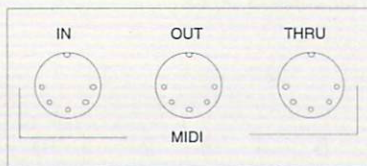


Figure 3

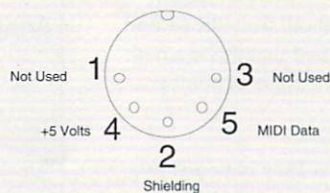


Figure Three:
MIDI Interfaces
and pin layout.



Figure 4 DaisyChained MIDI Compatible Instruments

Figure Four:
How to connect
multiple
MIDI instruments.

Programming The MIDI Interface

It is possible to program the MIDI interface with AmigaBASIC. The program would be a little too involved to be include with this article. However, if you would like to an article on programing the MIDI interface, please write to me at the address below. If there is sufficient interest in programming MIDI from BASIC, I will write an article on programming. For anyone who wishes to program on your own and needs additional information on MIDI communication specifications, you can contact the following sources:

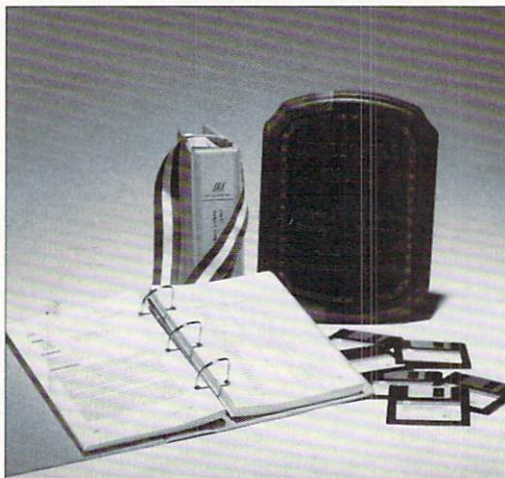
MIDI Association
5316 West 57 Street
Los Angeles, CA 90056
213-649-6434

On CompuServe TYPE: Go MIDI. This will bring you to two MIDI forums.

East Coast MIDI BBS: (516) 928-4986

(continued on page 36)

And the Winner Is. . . *The SAS/C® Development System*



Selected as the best professional productivity software at the 1991 North American Amiga Developers' Conference, no other C compiler delivers more powerful or efficient programs for the Amiga® than the SAS/C Development System from SAS Institute Inc.—one of the world's largest independent software companies.

The SAS/C Development System offers a host of impressive features for Release 5.10:

- A workbench environment
- Release 2.0 support
- Improved code generation
- Additional library functions
- Point-and-click program to set project options
- Automated utility to set up new projects
- Source-level debugger
- Integrated editor
- Global optimizer.

Run with the SAS/C Development System!
You'll come out a winner too. To order or for more information, call SAS Institute at 919-677-8000, extension 5042.

SAS and SAS/C are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries.
® indicates USA registration.
Other brand and product names are trademarks and registered trademarks of their respective holders.



SAS Institute Inc.
SAS Campus Drive
Cary, NC 27513

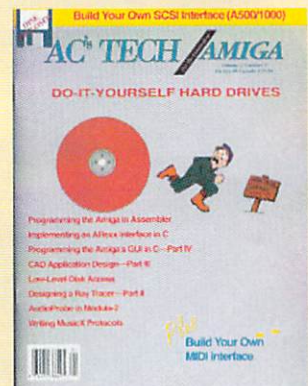
Circle 128 on Reader Service card.

Call 1-800-345-3360
to subscribe and receive
our two other Amiga
publications.

AC's TECH / AMIGA[®]

For The Commodore

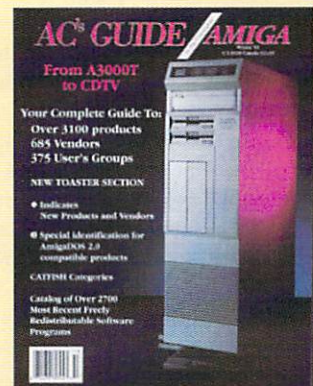
AC's *TECH For The Commodore Amiga* is the first disk-based technical magazine for the Amiga, and it remains the best. Each issue explores the Amiga in an in-depth manner unavailable anywhere else. From hardware articles to programming techniques, AC's *TECH* is a fundamental resource for every Amiga user who wants to understand the Amiga and improve its performance. AC's *TECH* offers its readers an expanding reference of Amiga technical knowledge. If you are constantly challenged by the possibilities of the world's most adaptable computer, read the publication that delivers the best in technical insight, AC's *TECH For The Commodore Amiga*.



AC's GUIDE / AMIGA[®]

To The Commodore

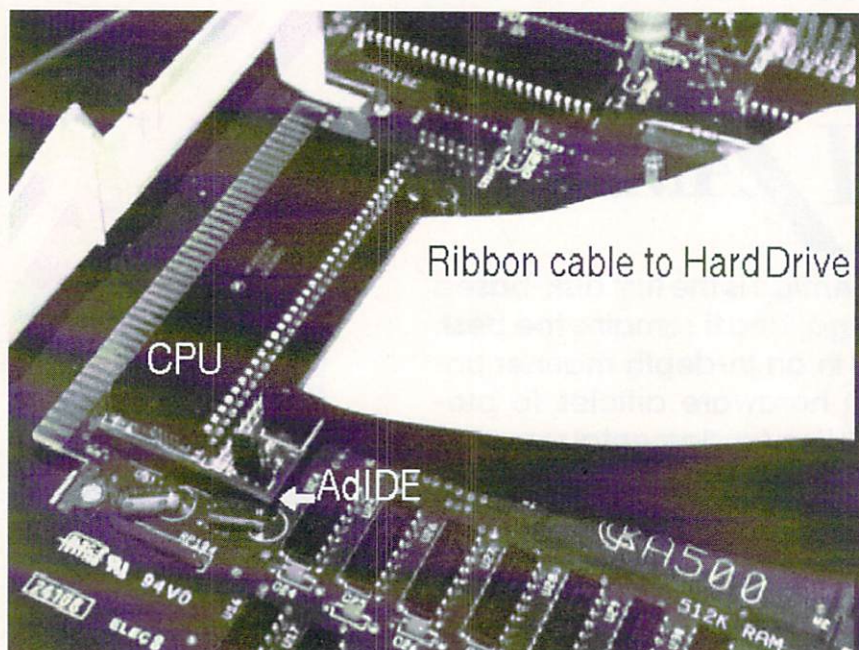
AC's *GUIDE* is a complete collection of products and services available for your Amiga. No Amiga owner should be without AC's *GUIDE*. More valuable than the telephone book, AC's *GUIDE* has complete listings of products, services, vendor information, user's groups and public domain programs. Don't go another day without AC's *GUIDE*!



ICD'S

AdIDE/40 Amiga 500 Hard Drive Kit

By Merrill Callaway



AdIDE would share the same high quality ICD engineering. Bill was impressed with its reasonable price (\$199.95 list). He could get a hard drive and his wife would still love him.

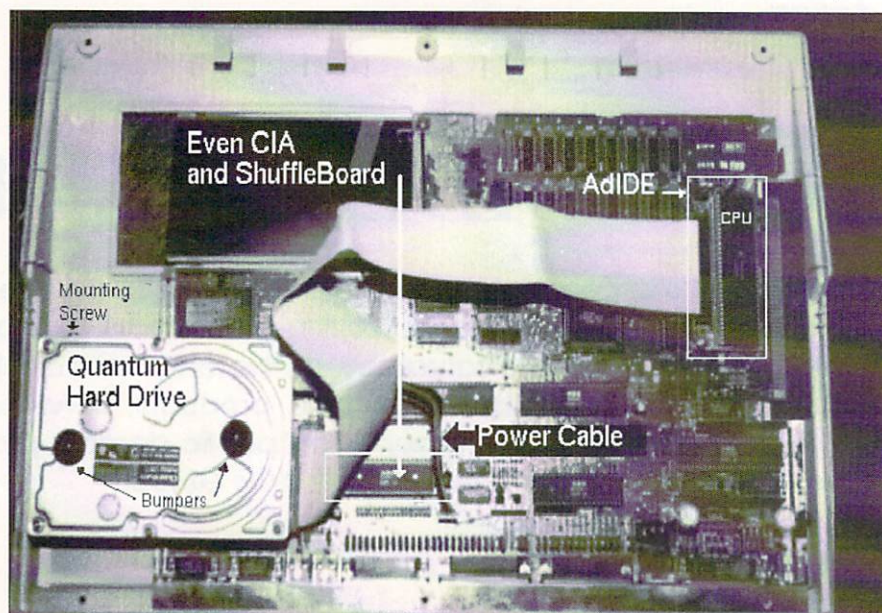
A Compact and Novel Engineering Concept

The next morning, a bleary-eyed Bill met me at the door and we got right to work. There are two things you must do to install the AdIDE hard drive inside the A-500. First, to make room for the hard drive itself, you must remove the DF0: interior floppy drive, and reroute DF0: to be an exterior drive. This is accomplished by the ICD Shuffle Board, included in the kit. It seems that most of the ICD products share a novel engineering concept: You make a sandwich by removing a particular chip from the motherboard, resocketing it into a small ICD circuit board only a little larger than the chip, and resocketing this board with its piggy-backed chip into the motherboard. My FFV made a sandwich with the Denise chip, and Bill's Shuffle Board made a sandwich with the even CIA chip. The AdIDE fits between the 68000 CPU chip and the motherboard. This concept makes for transparent use and compact installation.

Installation

The only drawback at all is that you have to wrestle large chips with many pins out of the motherboard and then install them again into a tiny board without bending pins or damaging the chips. Also, most chips (especially the even CIA chip) are extremely

My friend Bill Ross dresses up in a Gore-Tex suit every night, enters the clean room at the local Intel plant, and controls the ionization machines that create the highly charged atmosphere necessary for manufacturing i486 chips. Bill is an Amiga fanatic. He was certainly highly charged late the other night when he called me from work to invite me to witness the installation of his new AdIDE hard drive kit the next morning. After years of shuffling floppy disks with the dexterity of a card shark, Bill was more than ready to upgrade his trusty Amiga 500 to a hard drive. A few months before, when he had asked my advice, I recommended the AdIDE kit to him based upon my satisfying experience with another ICD product, the Flicker Free Video. I liked the form, fit, and function of the FFV and reasoned that the



sensitive to static charges and if you, your table, and the equipment aren't grounded properly, you run the risk of expensive damage. If you are not intimidated by this, then you should have no problems; if you are a novice, I recommend you pay your dealer to install your kit.

The Shuffle Board

After removing the case top, the keyboard, and the internal floppy drive, Bill gently rocked the even CIA chip out of its socket, working at each end with an offset soldering tool to lever the chip straight up. If you have one, a special chip puller is the best way to remove chips. After double- and triple-checking that Pin 1 of the chip was aligned properly (the ICD board is marked), he pushed the CIA chip into the ICD Shuffle Board, taking extreme care not to bend any pins. This was the hardest step. Then Bill removed the stiff foam covering the pins on the bottom of the ICD Shuffle Board and after checking the orientation, pushed this into the motherboard. That's it! The external floppy drive connected to the A-500 floppy connector became DF0: because the small board reroutes the connections for you.

The AdIDE and Hard Drive

Next, using the same technique, Bill removed the 68000 CPU chip from the motherboard and re-installed it in the AdIDE board, and this sandwich was pushed home in the original 68000 position. Again, he checked the proper orientation of the pins and the board beforehand. The instructions supplied by ICD are clear and easy to follow. There is a jumper on the AdIDE board to turn off the hard drive (for certain older games) if you desire. Bill installed a Quantum 52 Megabyte IDE drive (not included in the kit) in the space vacated by the internal floppy drive. The AdIDE will work with any IDE standard hard drives except Western Digital and Kalok IDE drives. These, apparently, are incompatible because they do not strictly adhere to IDE standards. It is a good idea to check with ICD first, however, to make sure they support your intended drive. I personally like Quantum Drives. I own two, and have had great success with them. They are

reliable, compact, fast and quiet. The hard drive itself is attached to the A-500 chassis in the space vacated by the floppy drive. It is attached in only one place (a plastic forked post) with a screw and washer, but two adhesive-backed rubber bumpers applied to the top of the drive, and two rubber washers fitted over the original floppy mounting stanchions effectively immobilize the drive once the case top is re-installed. Connecting a ribbon cable between the hard drive and the small AdIDE board, and connecting a power cable between the mother board and the drive completed the installation, and Bill re-attached the keyboard, case and all the cables. We were ready for power up.

Formatting and Partitioning the Drive

All you have to do is boot with the ICD supplied floppy and click on the format drive icon. An intuitive, well laid-out screen appears and by means of string gadgets, you

The ICD AdIDE/Shuffle Board drive kit is certainly the most compact way to add a hard drive to your A-500.

simply type in the sizes and names of your desired partitions. With IDE drives you do not need to do a low-level format, as this is done at the factory. Bill chose a 10MB bootable System partition to leave plenty of room for utilities and ARexx programs. He equally split the rest of the disk between a program partition and a data partition. Clicking on a "partition" gadget initiated the procedure, and after a few minutes, Bill was ready to copy WorkBench to the system partition, re-boot from the hard disk, and load up his drawer full of floppies. I think the ICD installation software is the easiest to use of the ones I have seen. All information that can be read from the drive itself appears automatically, and there is very little you must do except decide on names and sizes for your partitions. There are also some auxiliary programs to cover any special contingency you may face. Bill ran some speed test software and found that his new hard disk reads about 470 bytes per second, and writes around 370 bytes per second.

Conclusions and Recommendations

The ICD AdIDE/Shuffle Board drive kit is certainly the most compact way to add a hard drive to your A-500 (It also works fine in an A-2000. You can save some money by using an IDE instead of a SCSI drive. In an A-2000 you do not need the Shuffle Board, so you purchase the AdIDE/40 \$159.95). Bill operates out of a tiny space in a bedroom, and desk space is at a premium. That's the main reason we first thought of the AdIDE as the best solution to his problem.

Cost is another reason Bill and I strongly recommend this hard drive kit. The kit is reasonably priced, and IDE drives are available everywhere at bargain prices, because of the cutthroat IBM PC market. By shopping around for the drive separately, Bill saved over \$100 by getting the kit rather than the ICD Prima which contains a formatted Quantum drive identical to the one he purchased separately.

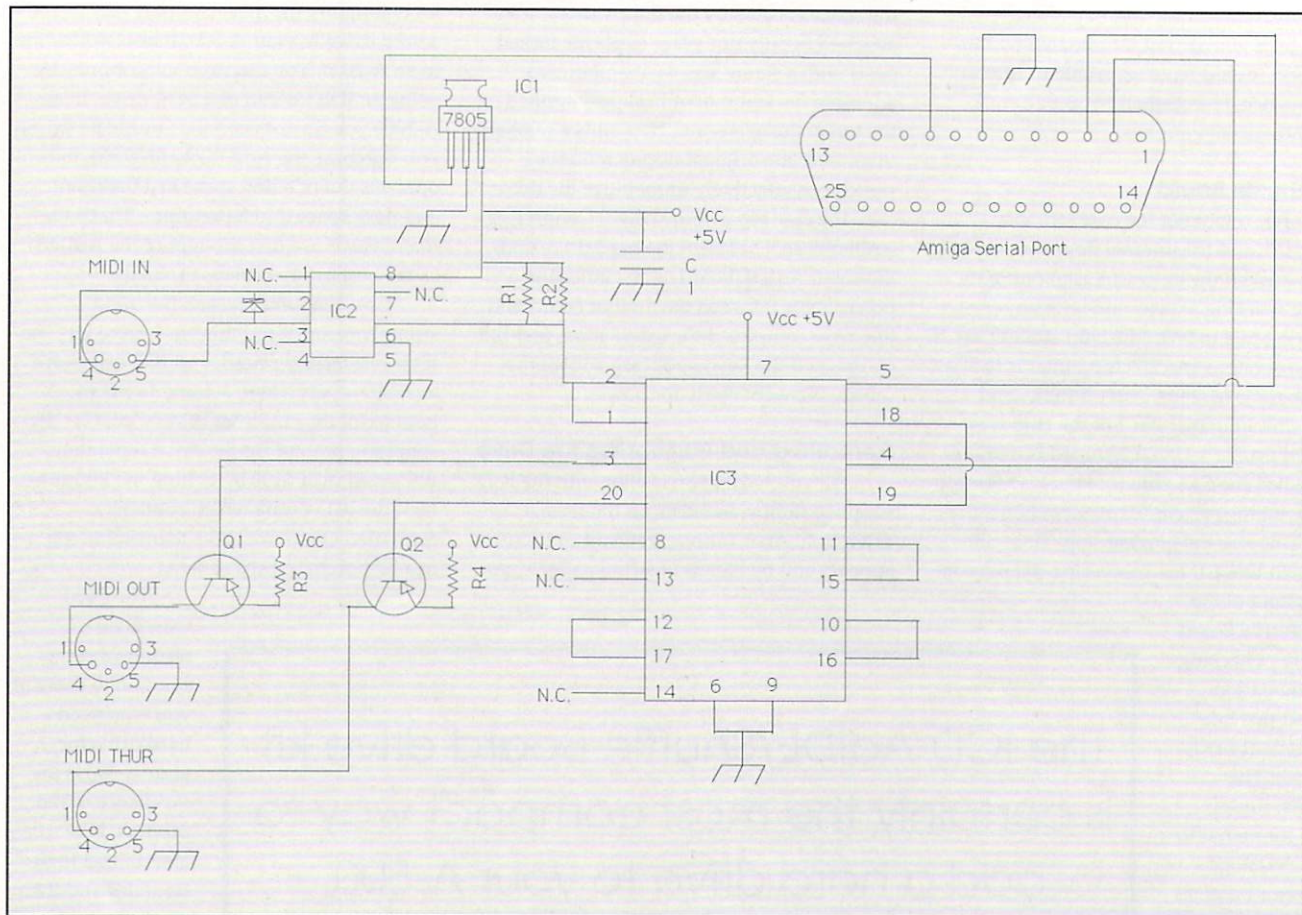
The third reason we recommend this solution to those of you who need a hard drive for your A-500 is the excellence of the product. ICD maintains a high standard and their products work as advertised. Bill reports that their technical support is excellent as well.

When he was still shopping around, they treated him as an established customer, and patiently answered all his technical questions. I know Bill is a satisfied customer. He calls me about twice a week to wonder out loud how he ever did without a hard drive. Hard drives are like that, and the ICD AdIDE is a particularly good way to put one in your Amiga without breaking your budget.

•AC•

AdIDE/40 Kit
Price: \$199.95
ICD, Inc.
1220 Rock Street
Rockford, IL 61101
(815) 968-2228
Inquiry #206

Please Write to:
Merrill Callaway
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

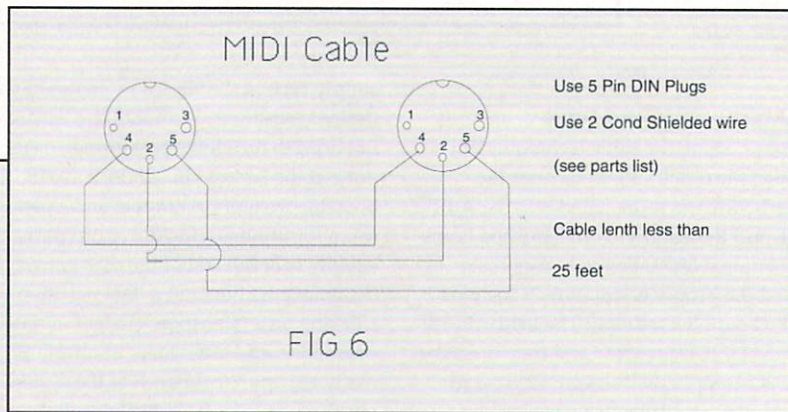


Above: Figure Five: The schematic

Figure Six:
Connecting
the cables
is simple.

PARTS LIST

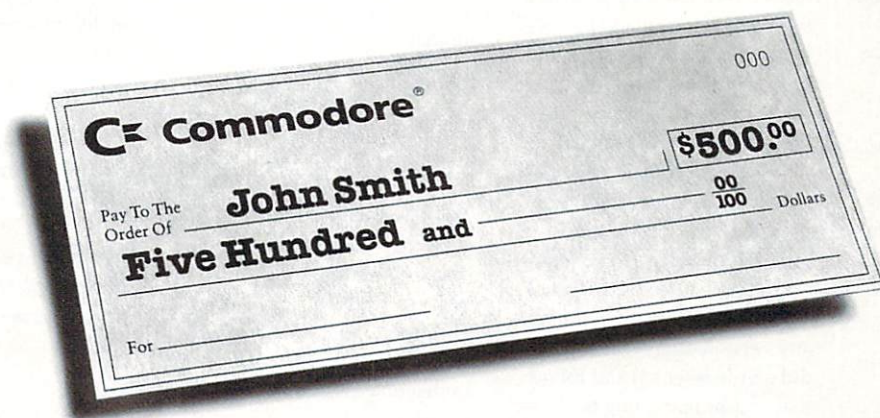
IC1	Max233 RS-232 chip
IC2	6N138 optocoupler
IC3	7805 V Regulator
D1	1N914 diode
R1	4.6 K resistor
R2	2.2 K resistor
R3 & R4	220 ohm resistor
C1	10 uf 16 Volt cap.
Q1 & Q2	2N3906 PNP transistor
PC Board	
5 pin DIN	90° board mounted sockets
DB-25 Female	90° board mounted



Use 5 Pin DIN Plugs
Use 2 Cond Shielded wire
(see parts list)
Cable length less than
25 feet

Please Write to:
John Iovine
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

500 Reasons To Buy An Amiga® 3000 Before April 30th



A check for five hundred bucks.

That's what you can get direct from Commodore when you buy an Amiga® 3000-25/50, or 3000-25/100 before April 30th. Or, you can even use your \$500 immediately right in the store toward the purchase of your Amiga.

Amiga 3000 series computers set the standard for multimedia platforms, with true 32-bit architecture for demanding video and graphics applications. The A3000-25/100 features a 100M hard drive and 5M RAM.



The A3000-25/50 has a 50M hard drive and 2M RAM.

All Amiga 3000's feature four-voice, two-channel sound, thousands of displayable colors, AmigaVision™ (which lets you control graphics and video simultaneously), on-site service* and convenient leasing terms.

For more information, call 1-800-66-AMIGA. Or see your participating authorized Commodore-Amiga dealer before April 30th. (Terms may vary in Canada. Call 1-800-661-AMIGA.)

Commodore®
AMIGA®

bug bytes

by John Steiner

The latest in tips,
workarounds and upgrades

re: 2.0 compatibility
source: Mail
product: Digi-Paint 3

In reader mail this month, we found several bugs to squash. First, Jacquelyn Davies of Chicago, IL, writes with a problem regarding Workbench 2.0 and Digi-Paint 3. She comments "When toggling 'Quit' from the top menu, a bottom register comes up asking if you wish to QUIT and under this register is a YES or NO. My problem is that the YES or NO are so far down below the screen, it is impossible to reach them with the mouse to toggle either one."

I contacted NewTek, and a technical support person commented that she is not running a 2.0-compatible version. He told me that Ms. Davies should contact them about an upgrade. He further went on to say that should anyone have any problems running any of NewTek's software that they can get it upgraded to a 2.0 compatible version.

NewTek, Inc.
215 E. 8th St
Topeka, KS 66603
(913)354-1146
fax (913)354-1584

product: Phasar 3.0
re: WB 2.0 compatibility
source: Mail

Bob Schultz of Fargo, ND, reported that since getting Workbench 2.04, he no longer could get Phasar version 3.0 to operate properly. He was ready to do his end of year changeover, and he wanted to keep current with his financing and budgeting. He tried to contact Antic Software, the original marketers of the program to see about an upgrade, and could not locate them. As a user of Phasar version 4.0, I knew that the program functions properly under 2.04 as I have been using it for a couple of years, and I never had any problems with it under any version of Workbench 2.0. I did a little research and found that Phasar marketing is currently being handled by Psygnosis Limited. Bob contacted them about an upgrade. The upgrade price is \$34.95, and he got his new Phasar 4.0 quickly. His accounting system is again up to date.

Psygnosis Limited
29 St. Mary's Court
Brookline, MA 02146
(617)731-3553
fax (617)731-8379

product: Quarterback Tools
re: Undeleting WP files
source: Mail

A letter from Dr. Barlow Soper of Ruston, LA, asked about being able to undelete files that had been accidentally deleted from WordPerfect. He commented that he had tried the delete recovery function built into Central Coast Software's Quarterback Tools, and said it only "undeleted" the .info file. I was amazed at this as I have used Quarterback Tools for some time, and had not ever noticed this problem before. To check out the problem, I attempted to "undelete" a file I had created and deleted for testing purposes. The file appeared to return to my hard disk, but in actuality was only a few bytes long, and missing most of the information that was originally in the file. I discovered that only certain files undeleted properly. A note to New Horizons Software, the current marketers of CCS software, brought a quick reply. Mark Thomas, their technical support representative, replied that the problem was a bug in early versions of Quarterback Tools. The current version, 1.5, no longer exhibits this problem. He also mentioned that when using Quarterback Tools for undeleting files you should exit Quarterback Tools after recovering a file and before examining the directory or file that has been recovered. He went on to say that users who are running an earlier version of QB Tools can upgrade to the latest version by sending their original disk and \$5 for shipping and handling to:

Central Coast Software
P.O. Box 165287
Austin, TX 78716

A second letter from Dr. Soper noted that he found a shareware program called *Last Hope* by Manuel Lemos. The \$10 shareware utility will undelete AmigaDOS files that have been deleted on floppy disks and hard

drives that have not been formatted using the fast file system. You can register your copy of "Last Hope" by sending the \$10 shareware fee (domestic checks accepted) to:

Manuel Lemos
Pcta. Dr. Agostino Campos, 8
3800 Aveiro
Portugal

product: Draw 2000
re: Upgrade v 2.0
source: Mail

Michael Haverkamp of Laredo, TX, writes about an upgrade to Oxix's Draw 2000, a long-time popular computer-aided design program for the Amiga. He enclosed a copy of Oxix's latest newsletter that contains information about the upgrade. Version 2.0 features the ability to read and write AutoCAD files, three point dimensioning with +/- tolerances, improved printing and plotting, Postscript output, keyboard shortcuts, metric units and more. Current owners of Draw 2000 version 1 can upgrade for \$49.95; owners of the original Draw or Draw Plus programs can upgrade for \$59.95.

Oxix, Inc.
1339 E. 28th St
Long Beach, CA 90806
(310)427-1227
fax (310)427-0971

product: LSE
re: Screen crash
source: Mail

Ian Mah of Toronto, Ontario, writes reporting a problem with the Lattice Screen Editor which is supplied with SAS C 5.10b. He comments, "It is of the variety of 'Doctor, doctor, it hurts when I do this.' 'Then don't do that!'" Whenever LSE is invoked by either CLI or Workbench and there are only

one or two inches of Workbench visible from behind another screen, then LSE will open a window the size of the visible area and freeze. The window cannot be resized, nor can you quit. After several seconds it starts to damage other screens and finally crashes. Mr. Mah is running an A1000 with Comspec and C-LTD RAM expansions and a Comspec SCSI controller using WB v. 34.28 and KS 34.5.

product: SilentWriter 2
re: System hang-up
source: Mail

Mark Johnson of Des Moines, IA, writes regarding the NEC SilentWriter 2 Model 80 laser printer he recently purchased for use with his A1000. He comments that he cannot turn on the printer until he is ready to print a document. If the printer is on, the system hangs up whenever you attempt to open an icon. Turning the printer off releases the system. He goes on to say, "After creating a document, I then turn on the printer and am able to bring up print menus and execute them. Any other action, such as saving or closing a file, cannot be done. Incidentally, the printer is connected through the parallel port."

I would guess from the sound of this problem that there is some incompatibility with the NEC and an Amiga 1000 style printer cable. I would suggest checking with an Amiga service center about comparing the pin connections on the printer interface with those of the A1000. I don't have any other suggestions. Are there any readers who are using this combination? If you are not having problems, or if you have a solution to Mr. Johnson's problem, let me know, I'll pass it along.

product: 2.5MB Baseboard
re: Setting RAD
source: Mail

Ted Carnevale of Setauket, NY, writes with a problem on his Workbench 2.0 equipped A500 and 2.5MB Baseboard. He is having problems setting up RAD:, the recoverable RAM disk. He also wonders about the redirection function, NIL: He writes that the first problem is that diskcopy <NIL: df0: to rad: name "ramwb" does *not* suppress diskcopy's request that the user press CR before it proceeds. He wonders if the application of NIL: has changed from WB 1.3. I don't know whether or not it has; however, the redirection symbol indicated in the command he listed should be the "greater than" (>) rather than the "less than" symbol to suppress the diskcopy's request prompt. Suppressing the prompt in this fashion still doesn't eliminate the need for pressing RETURN, however. I assume Ted wants to avoid pressing RETURN in the startup-sequence to copy the contents of his floppy to RAD:, and I'm not sure how to implement this. Prior to getting a hard disk, I used RAD: for some time, but I never used diskcopy to transfer my files to RAD:. As I recall, instead of diskcopy, I used the copy command which I issued to copy only the required drawers to RAD:. Typically, that's C, L, Libs, devs, S, and maybe Fonts. Then I would assign SYS: to the RAD: device. This had the advantage of allowing me to make RAD: smaller than 880K, saving more RAM for my applications. If you have any other suggestions how Mr. Carnevale can use Diskcopy under WB 2.0, let me know, I'll pass it along.

Ted also comments on setting up the RAD: device so that it works properly. He writes that he new manual says to put the RAD: initializing code into user-startup. As it comes from the factory, startup-sequence

invokes user-startup *after* issuing the path command. Result: even though RAD: is set up, the machine looks to the boot floppy for C:, etc. Furthermore, rebooting with Ctrl-A-A crashes the machine—the sequence of screen colors is

grey
dark grey
yellow with flashing red
(power) LED

do forever (continuing to flash the red LED {
black
grey
yellow }
So he moved the 'if exists user-startup' block up to where it belongs, right after "addbuffers." This results in a report of greater RAM available, and the "To reset Workbench screen, please close all windows except drawers" requester comes up due to the fact that he opens a small shell window just before his user-startup ends. Once he closes his newly opened shell, the eight-color Workbench he asked for in the Preferences setup is activated. RAD: works fine from this point until he reboots; then he receives a system crash. Obviously a recoverable RAM disk that crashes upon system reboot is not exactly what he had in mind. Ted would like to know if anyone else has been successful in getting the RAD: device operating.

product: ClickDOS
re: Upgrade
source: Communications net

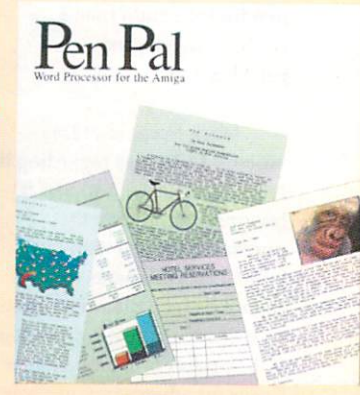
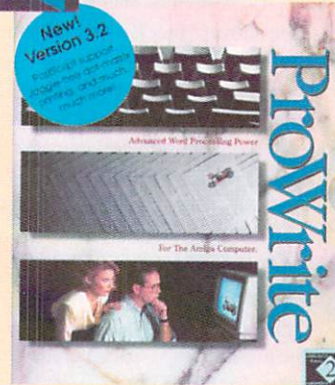
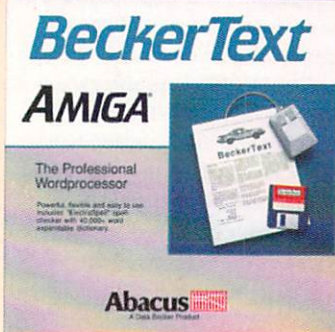
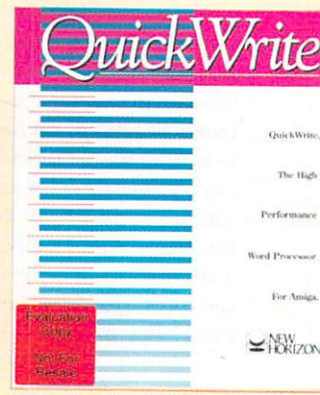
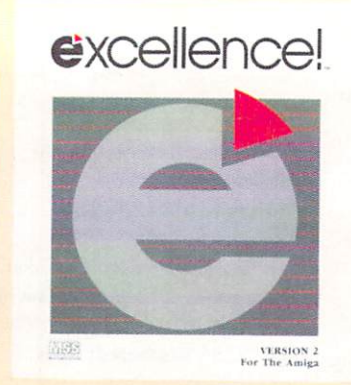
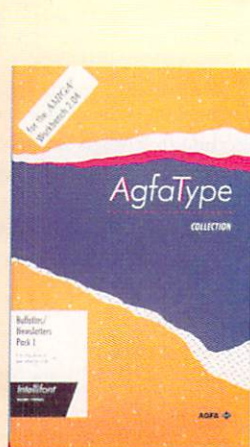
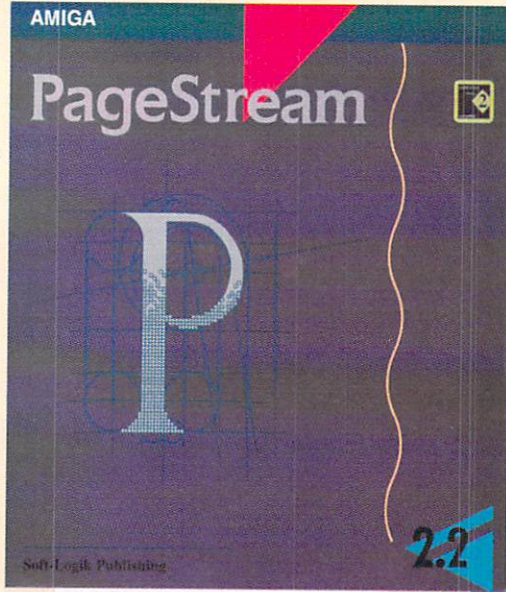
ClickDOS, a shareware program by Gary S. Yates, has been my directory utility of choice for some time. There are many of these utilities to choose from, both commercial and shareware, however, I came across ClickDOS on a communications network some years ago and have been using it ever since. His original \$15 shareware fee was well worth the price, and he has upgraded my registered copy twice. Mr. Yates has

finished ClickDOS II version 3.1w, and is making it available to registered users. The major improvements that have been added to this release include 19 additional User Defined-Gadgets for a total of 23 which can be defined to operate many specific functions that you might wish to do repeatedly. The TYPE function has undergone a major improvement. The Show function now has the ability to scroll when viewing oversize IFF images. ClickDOS II can now be iconified at almost any time, even while using functions such as Type, Show, or Copy. If you are not a registered user, you can register your shareware copy by sending \$15. For your shareware fee, you will receive the latest version if you don't already have it, and also the next upgrade when it becomes available. Include your name and address as well as the version number of your current ClickDOS version.

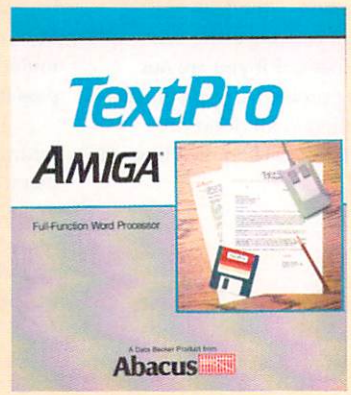
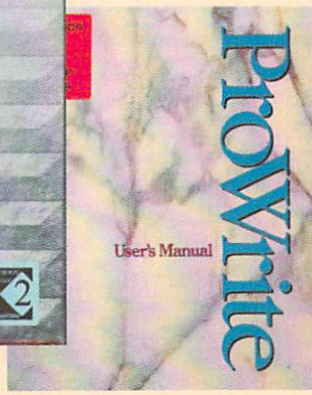
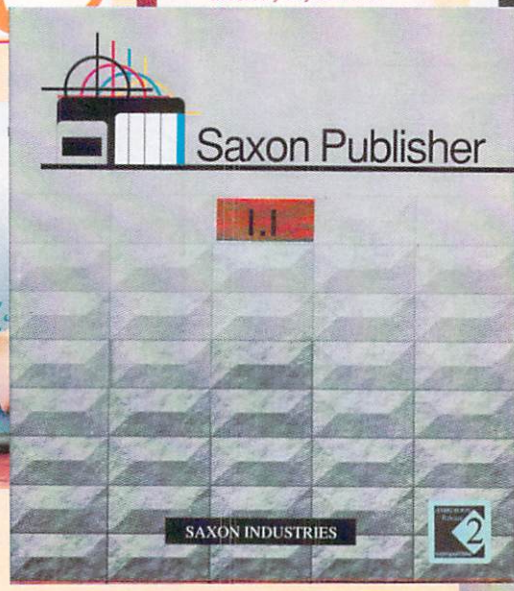
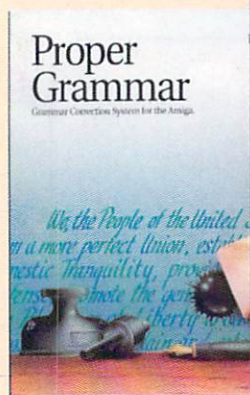
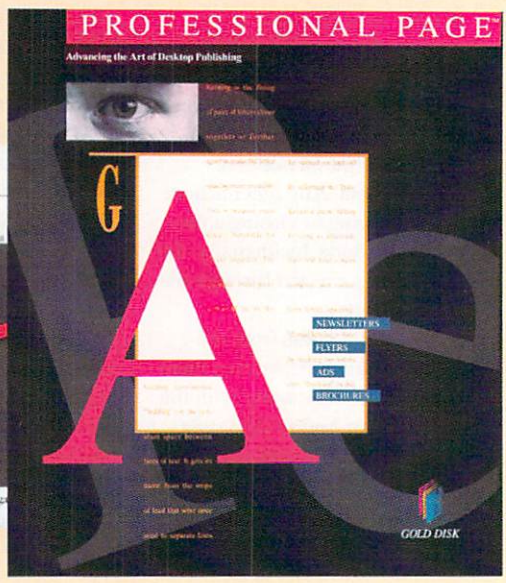
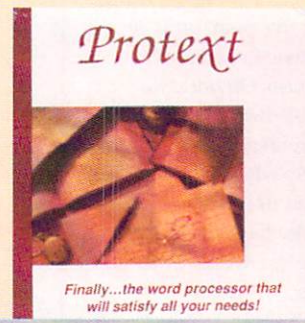
ClickDOS II Project
Gary Yates
1200 Happy Hollow Rd.
West Lafayette, IN 47906

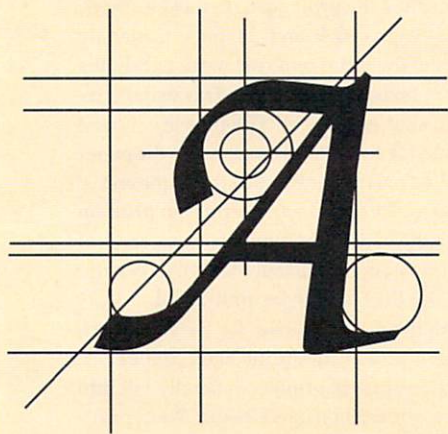
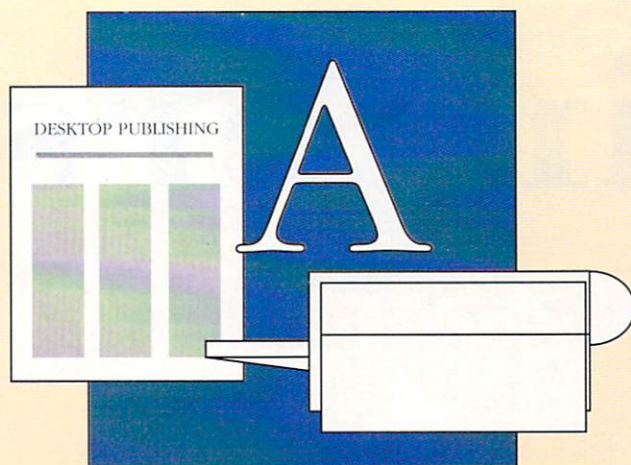
That's all for this month. If you have any workarounds or bugs to report, or if you know of any upgrades to commercial software, you may notify me by writing to:

John Steiner
c/o Amazing Computing
Box 2140
Fall River, MA 02722
...or leave EMail to
John Steiner on Portal
73075,1735 on CompuServe
Internet mail can be sent to
John_Steiner@cup.portal.com
FAX John Steiner at (701) 280-0764



Amiga
DTP



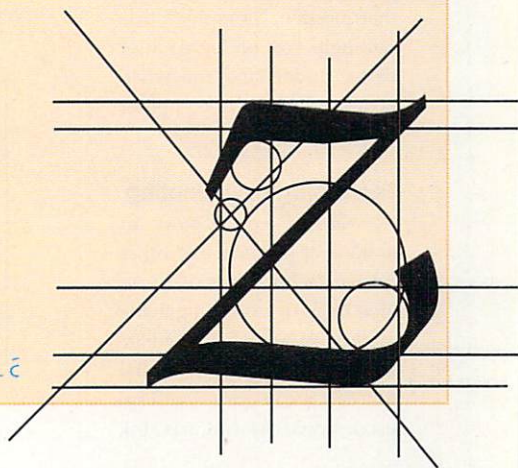


Whenever you hear someone mention page-layout programs and desktop publishing, you tend to think of the Macintosh. Up until recently, you'd certainly be on the right track. But now the Amiga is breaking through its common stereotypes of a graphics machine, or game-only or video-only machine. No longer is DTP the sacred and nearly exclusive domain of the Macintosh. The latest updates from Saxon Industries, Gold Disk, and Soft-Logik prove this. The three leading Amiga DTP programs—*Saxon Publisher*, *Professional Page*, and *PageStream*—are leading the way for productive and profitable desktop publishing on the Amiga. These programs have become more user-friendly, more intuitive, and more powerful—powerful enough to compete with their Mac counterparts, *PageMaker* and *QuarkXPress*.

PostScript compatibility is a prime concern in the DTP field, as is support for Adobe Type 1 Fonts, EPS, IFF, and other graphic file formats. As the need for standards among DTP programs is being fulfilled, Desktop Publishing on the Amiga is becoming a more viable solution than using any other platform, for the Amiga has arrived, its true potential having been tapped by pioneering, courageous developers.

the quick brown fox jumps over the lazy dog
 the quick brown fox jumps over the lazy dog
 the quick brown fox jumps over the lazy dog

τηε θυιχκ βρωων φοξ φυμπς οτερ τηε λαζψ δογ
 the quick brown fox jumps over the lazy dog
 the quick brown fox jumps over the lazy dog



Printers

permanent record makers

by Dan Weiss

Most computer peripherals have a transient nature to them. When you turn off your computer, the memory forgets. Disk storage, hard and floppy, is constantly being rewritten, or sometimes even crashing. Scanners, monitors, and projectors only deal with images for an instant, making a sense of motion possible. But printers stop the motion and record it in a practically permanent manner. Because of this, the results of a printer are judged by a set of standards that are stricter than any other peripheral.

Of course, if you are going to pass judgment on the results of the printer, then you should be careful in judging the device itself. An accomplished artist can work with virtually any medium, but some work better than others. The same is true of the Amiga and printers. While the Amiga, through preferences, can work with just about any printer, some printers are better suited to certain tasks. But which printer for which task? What follows is an in-depth, but comprehensible examination of that question. I hope this article will help you understand, or better understand the what, hows, and whys of computer printers.

Technologies of Printing

The simplest way of looking at printers, and other related technologies, is to divide them up according to the method that they use to create the image. For this article the following categories will be used: Impact Dot Matrix, Ink

Jet, Laser, Film, PostScript. The last category, PostScript, is not strictly an imaging technology like the rest, but its influence on printing is so significant that it should be looked at.

Impact Dot-Matrix

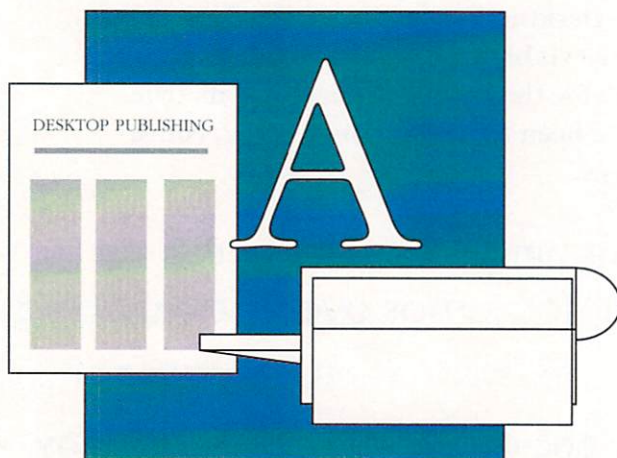
This is the basic technology that makes most personal computer printers tick (clatter, and bang). The term "impact" comes from the fact the image is formed when something strikes the ribbon in the printer and leaves behind an image on the paper. This is the same idea as used in a typewriter, a process that can generate much noise. "Dot-Matrix" refers to how the computer generates the images or text. In this case the computer controls a series of little wire pins that are aligned in a group. The computer fires, or rapidly turns these pins on then off so that dots are laid down in a precise order. When the dots are printed, images are formed. This is much the same method used in many electronic signs and scoreboards.

The part of the computer that holds the pins is called the print head. In most printers, it holds between 9 and 24 pins. Generally speaking, the more pins, the more tightly the dots can be packed together. This usually results in sharper images. The pins are moved back and forth across the paper, and the paper is scrolled past the head a little bit at the end of each pass. This allows the printer to print on most of the page. Sometimes there are areas at the extremes of a page that the printer can not reach, but they tend to be quite small.

As mentioned above, for the most part, the more pins in the print head, the better. Impact dot matrix printers generally fall into two categories, 9 pin, and 24-pin. 9-pin printers are the work horse printers for many people. They are solid and dependable, and very inexpensive. The two major drawbacks are that they are noisy, as are their 24-pin cousins, and they often offer very coarse output. When the output is called "coarse," that is in comparison

to the quality of the magazine that you're holding. It is created with between 1200 to 3000 dots per inch. Whereas a 9-pin printer prints with 72 to 216 dots per inch, 24-pin printers, by comparison, still have the noise problem but offer higher quality output, faster speeds and bigger price tags.

While the quality of these printers may be low in comparison to some, they are certainly high enough quality for many business-reporting applications. Invoices, cash register receipts



and service contracts are commonly printed with impact dot-matrix printers. Part of this is so because this is the only class of printers that will work with multi-part (carbon or carbon-less) forms. If you need to do this sort of work, this is your only choice. If you simply need multiple copies, printing the same page multiple times on a faster printer may be a better solution.

As with all technologies, there is a high and a low end, but they are very blurred with impact dot matrix printers. Part of this is due to the sheer number of printers available. An-

other reason is that of the many minor distinctions among printers. Some printers offer color printing; others offer the ability to handle wide, multi-part or other special paper. If money is the key issue in your purchase decision then this is the class of printer you will want to buy. As to which printer, let the features you want make your decision. At this point the market is mature enough that all the printers out there are of generally high quality. If you can find a good deal, take it.

Ink Jet Printers

Ink Jet printers are also dot matrix printers, but they put dots on the paper by "shooting" ink at the paper. This results in two major improvements; quiet operation and no pins to wear out. Instead of a print head, ink jet printers generally use a special cartridge that holds both the ink and the spraying mechanism. The logic is simple—when you run out of ink, the cartridge is thrown away. But as many people have found out, the cartridge can be carefully refilled and used a number of times. This cuts costs, and also gives you a chance to use a wide range of unusual color replacement inks.

Like impact dot-matrix printers, ink jet printers move the print head over the paper, and the paper scrolls past the head on each pass. Because of the design of the jet mechanism, the dot of an ink jet print can be much finer, and generates a truer high resolution dot than most impact dot matrix printers.

Ink jet printers used to be an expensive alternative to impact dot matrix printers, but new models have changed that. The quiet operation, high quality output, and moderate price makes this class of printers attractive to many Amiga owners. Another attractive feature for Amiga users is the excellent way that ink jet technology can reproduce the colors the Amiga displays. Since nothing but ink touches the paper, color images do not get "muddied" like those created with impact dot matrix printers. An ink jet printer is an excellent choice if you want more quality than impact dot matrix printers offer, without the expense of a laser printer. It is also the best choice for affordable high quality color output.

Laser Printers

As with the printers discussed above, laser printers use the dot matrix idea for creating images. The difference is, again, in how the image is transferred to the page. A laser printer uses the same technology as a photocopier. A computer-controlled laser "draws" an image on a



BRIDGEBOARD USERS!

Don't waste money, slots or desk space buying extra IBM-compatible or Amiga floppy drives! The **Bridge Drive Commander+** gives you direct access to all your internal and external Amiga drives from the Bridgeboard, and direct access to IBM type 360K and 720K drives from Amiga-DOS. AT Bridge Boards can use 1.44M drives. The **Bridge Drive Commander+** is totally transparent and automatic. Put an IBM type disk in any drive and use it just like on any IBM compatible! Put in an Amiga disk and return to Amiga use! Just that simple, just that fast! One drive can use Amiga disks at the same time another is using IBM-compatible disks. Disks are completely usable by other Amiga and IBM-compatible computers. All hardware: no software drivers to load, no precious memory or cards slots used up. Plugs onto motherboard at internal drive connector. (No soldering or wiring changes.) Compatible with all Bridgeboards (8088, 80286), accelerator boards (any 680x0), hard disks and other hardware and software.

Introductory price ends April 30\$97.50

MJ SYSTEMS

Dept 29A, 1222 Brookwood Road, Madison, WI 53711

1-800-448-4564

(24 hours MasterCard/VISA)

Product names are trademarks of their respective companies.

Circle 103 on Reader Service card.

photoconductor. This creates a magnetic charge which picks up the toner. Toner is a special colored plastic, usually made of thermoplastic and lamp black, that can be moved easily by electric charge. The toner is then pulled from the photoconductor onto the paper by another charge. At this stage the toner is in the correct place, but only sitting on the paper. Finally, the fuser roller melts the plastic into the paper to create a permanent image. This is why photocopies and laser printouts are hot. The one consumable is the toner cartridge, which includes the photoconductor. Like ink jet cartridges, toner cartridges can be refilled and reused.

Due to the differences in how the image is printed, laser printers place the entire image on the page at once. This means, for most printing, a laser printer has to have over 1MB of memory in it to hold the page before printing. A positive side effect of this is that once a page has been sent to a laser printer, it is very simple for it to make multiple copies of the same page. This is often a good solution to not being able to print on multi-part forms.

When they were first introduced, laser printers offered the highest resolution of all printers, 300 dpi. Now many impact and ink jet printers go that high or higher. Laser technology has not been sitting idle either. Now you can purchase laser printers that go as high as 1200 dpi, but at some expense. For most personal and business uses, 300 dpi is more than enough resolution.

Ink Jet printers are
also dot matrix printers
but they put dots on
the paper by
"shooting" ink at the
paper.

The main questions in purchasing a laser printer are compatibility, capacity, and speed. Compatibility with the Amiga is best achieved through Hewlett Packard PCL support. If you buy an HP printer, then this is not a problem. Many printers say they support PCL, but with varying degrees of quality. PostScript compatibility is also an issue, but only if you are using programs that specifically support it. Capacity issues are: how many pages will be printed per month, how big the paper tray is, and how big the catch tray is. If you are working in an office environment, a personal printer is a bad choice, as it will get overloaded. In a home office or personal setting, a smaller printer offers cost and space savings.

Speed—everyone wants everything faster. In general, a laser printer will be faster than any other printer, so paying for more speed may not be worth it. At times, a laser printer may seem slow because it prints nothing until it is done. A dot-matrix impact printer, by comparison, shows results as it is going. All in all, laser printers make excellent business and personal printers, but can be quite expensive.

Film Devices

Film devices is a group often ignored. While a film device is not a printer in the traditional sense, it is often used on the Amiga platform as a way of capturing an image in full color. Film devices, both slide and print, operate much like your Amiga monitor. They work by projecting light onto film. In some ways, this means you will get the truest reproduction of your work. A problem is that you are restricted in what output formats you can use. The most common final products are 35mm slides or Polaroid prints. If you are creating a lot of slide presentations, then this can be an excellent tool to have. A less-expensive solution may be to just take pictures of your monitor, in a darkened room.

At this time there are not very many film devices available for the Amiga, and just as few programs that support them. But if you have the need, this can be a powerful tool when combined with the Amiga.

PostScript

PostScript is not a printing technology like those discussed above; it is a different way to control all of the devices mentioned. PostScript is a programming language that is used to control output devices, including monitors, in a stan-

dard way. With this, the same file can be run on an ink jet printer, laser printer and slide recorder even though all these devices work differently. PostScript is also the language used to control imagesetters. These are very high resolution devices, 1200-3000 dpi and beyond, that cost \$30,000 and up. With the common language of PostScript, you could test an image on a personal printer and then run it on an imagesetter for improved quality.

From the outside, most PostScript devices don't look any different. The internal hardware or software generally does not take up much space. But the price tag clearly shows the difference. If you are going to be doing a lot of very high quality professional work, then this is the way to go. Unfortunately, like the film devices, not a lot of Amiga programs support PostScript. If you buy a PostScript printer, make sure that it is also compatible with some other printer type. Often PostScript laser printers offer HP PCL compatibility.

From Here

I hope that this article has given a feeling for what kind of printers there are out there. More than likely, you have a printer now but want to upgrade to something better. Depending on your budget, an ink jet or laser printer would be your best choices. PostScript is the way of the future, but may be more than you need.

Use this article to help you decide what kind of printer you would like to buy. Then go to your dealer and see the printers in action. Let the printer sell itself to you. To help in making your choice, you may want to make up a sample document that is typical of the kind of printing you will want to do. Try the document on several printers to get a feel for how each of them handle your work.

•AC•

Please Write to:
Dan Weiss
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

THE GRAPEVINE GROUP, INC.



North America's Largest
Supplier of Amiga Custom Chips.



AMIGA UPGRADE CHIPS

Fatter Agnus (8372A)	See below
8362 Denise Half Bright	23.95
8373 Super Denise/Software	42.95
8364 Paula chip	23.95
5719 Gary chip	12.95
8520A CIA chip (6+ \$10.95)	11.95
1.3 ROM Kickstart	27.95
2.0 ROM Complete Upgrade Kit	87.50
2.0 ROM Chip only	47.95

ICD PRODUCTS

AdRAM 540 with 1 Meg	127.95
With 2 Megs	162.95
AdRAM 2080 OK	97.50
AdCSI 2000	97.50
AdCSI 2080 OK	164.50
AdSpeed	184.95
Flicker Free Video	248.50

POWER SUPPLIES

A500 45 watt (heavy duty)	67.50
A500 200 WATT Big Foot	see below

MEMORY EXPANSION

Phoenix Board-Within minutes transform the A1000 into a powerful new Amiga that approaches the specs of the A3000. Eliminate compatibility problems. The Phoenix is a complete replacement motherboard (or stand alone Amiga)	\$850.00
1x4/80 SC Zip for A3000	21.95
1x1/100NS	4.69
256x4/100 all ICD, GVP, etc	5.25
1x8/80 SIMM	38.95
4x8/80 SIMM	154.95

DIAGNOSTICS

Amiga Diagnostician: Booklet/Software/Schematic	14.95
The Final Test: Diagnostic diskette with instructions by Global Upgrades, Inc.	13.95
Dr. Ami (software)	29.35
A500 Service Manual	29.95
A2000 Service Manual	34.95

EXCLUSIVE AT THE GRAPEVINE

Super Denise 8373 Upgrade *ENHANCED CHIP SET*

Now utilize productivity and scan mode, etc. Super hi-res mode (1280 x 200 pixels). An absolute must with 2.0 Inc. Super Denise instructional diskette for diagnostics & installation

A500 Keyboard - New (List Price \$109.95)	\$59.95
A2000 Keyboard	\$79.95

8502ACIA Chip: The most problematic chip in the Amiga computer. Controls centronics, RS232, joy stick and mouse ports, drive LED, drive motor, black and green screens, boot and external drive (6 or more \$10.95 each).

Amiga Printed Circuit Mother Boards

Now available at phenomenal price. Buy them populated or unpopulated. Comes with 90 day warranty. Don't miss out on this one!

A500 PCB (tested & populated with all chips)	\$199.95
A2000 PCB (tested, populated with 1 MB Agnus, 1.3 ROM and 8373 Super Denise)	\$529.95

Switch-It

Electronic ROM selector switch by Global Upgrades Inc., allows for compatibility of ALL your software. Switch between 1.3 or 2.0 ROM from your keyboard or mouse. Does not overlap the 68000 chip for compatibility with your accelerator. Simple plug in, no soldering. Lowest priced electronic switch available. Instructions included

McCoy PLCC Agnus Chip Puller - A \$29.95 value for

STU (System Test Utility), a terrific diagnostic trouble-shooting package.

An absolute must (all Amigas) by Custom Services, Inc.

Emergency Amiga Startup Kit—Sold to government PXs and now available to all.

Kit has major chips, (2-8520, 8362, Agnus, 5719) parts, schematic, instructions and

"Final Test" diagnostic software programs, etc. (everything needed to get it started).

With 8373 Super Denise add \$39.95

The Final Test: Diagnostic Amiga diskette tests out keyboard, display, graphics, new

workbench sound, timing, real time clock & RAM. By Global Upgrades, Inc.

Fatter Agnus (8372A) 1 MB with FREE Rockwell chip puller

(a necessity), "The Final Test" special diagnostic diskette and complete instructions

Multistart II (by DKB) Now switch between ROMs for A500/2000 (a must with 2.0)

Keyboard Controlled

200 Watt "Big Foot" A500 Universal Switching Power Supply with fan.

Insider IIRAM expander unit by DKB, for A1000 1.5 MB installed/OK

MegAChip 2000™—Upgrade your A500/A2000 to 2MB of chip RAM. (Fantastic seller)

Includes A3000 2MB Agnus chip, Rockwell chip puller & "Final Test" diagnostic diskette.

Buy the MegAChip from us and we'll give you the new 8373 Super Denise for \$39.95

(send in your 1 meg Agnus substantial rebate)

KwikStart II/1.3 and 2.0 KickStart ROM switch for A1000



3 Chestnut Street • Suffern, NY 10901

Customer Service (914) 357-2424 Fax (914) 357-6243

Order line only 1-800-292-7445

Add UPS charges to above.
Prices subject to change.

Hours: 9-6, (EST)
No personal checks over \$100.

We ship worldwide

Circle #108 on Reader Service card.



WE ARE AMIGA™ HEADQUARTERS!



SOFTWARE

PRODUCTIVITY

Ami-Back	47.95
AMOS Creator	59.95
Arex	29.95
Art Dept Pro Ver 2	179.95
Audio Master IV	59.95
Audition 4	59.95
B & P Creativity Kit	41.95
B & P Pro Studio Kit	41.95
BAD	29.95
Baud Bandit	29.95
Broadcast Fonts 3D	89.95
Buddy Sys: A Dos 2	29.95
Buddy Sys: Imagine	29.95
Cygnus Ed Pro	59.95
Deluxe Paint 3	59.95
Deluxe Paint 4	107.95
Design Works	74.95
Director 2	77.95
Directory Opus	35.95
Disney Animation	77.95
Eclips 2	59.95
Home Front 2.0	59.95
Imagine 2.0	169.95
Imagine Companion	23.95
Lattice C	193.00
Page Stream 2.2	179.00
Pagesetter II	77.95
Phasar	53.95
Pixel 3D 2.0	77.95
Project D 2.0	35.95
Pro Video CG II	119.95
Pro Video Post	209.00
Pro-write	94.95
Quarterback	39.95
Quarterback Tools	48.95
Quick Write	44.95
Scene Generator	29.95
Scenery Animator	59.95
Spectracolor	59.95
Surface Master	20.95
Turbo Silver/Terrain	59.95
Turbo Text	59.95
TV Text Pro	99.95
Vista	35.95
Vista Pro	86.95
Works Platinum	119.95

ENTERTAINMENT

4D Boxing	29.95
668 Attack Sub	29.95
A-10 Tank Killer	29.95
Awesome	34.95
Beast 2	34.95
Birds of Prey	29.95
Brigade Commander	26.95
Death Knight/Krynn	29.95
Eye of the Beholder	35.95
F-15 Strike Eagle II	35.95
Falcon	29.95
Flight of the Intruder	35.95
Hare Raising Havoc	29.95
Harpoon	35.95
Jack Nicklaus Golf	35.95
Katie's Farm	23.95
Killing Game Show	26.95
King's Quest 5	35.95
Knights of the Sky	35.95
Leisure Suit Larry 5	35.95
Lemmings	28.95
Life & Death	29.95
Lord of the Rings	32.95
Mc Gee	23.95
Nascar Challenge	29.95
Obit	35.95
Oh No More Lemmings	20.95
Perfect General	35.95
Perfect Gen. Addon	20.95
Populous II	35.95
Railroad Tycoon	35.95
Red Baron	35.95
Search for the King	35.95
Secret/Silver Blade	29.95
Silent Service II	35.95
Sim City	29.95
Star Control	29.95
Strip Poker 3	29.95
Their Finest Hour	17.95
Warlords	29.95
Wayne Gretzky 2	35.95
Where in Europe	29.95
Where in Time	29.95
Where in the USA	29.95
Where in the World	29.95
Willy Beamish	35.95

HARDWARE

1X8 SIMM Modules 80ns	45.00
501 Clone - 512K	35.00
A500 Internal Drive	79.00
AdSpeed Accelerator	189.00
Air Drive	80.00
Baseboard-4MB A500 Board/0k	89.00
Baud Bandit 2400 w/software	110.00
Data Flyer 500	145.00
DCTV	395.00
DPS Personal TBC II	829.00
Flicker Fixer	239.00
Golden Image Hand Scanner	265.00
Golden Image Mouse	31.95
Golden Image Optical Mouse	52.00
Golden Image RC-500	49.00
GVP Impactvision	1875.00
Imagine-A Guided Tour/Video	24.95
MIDI Connector	50.00
Mouse/Joystick Switch	23.00
Multi-Start II	59.00
NewTek Video Toaster	CALL
Perfect Sound	66.00
RocGen Plus-Genlock	345.00
Safeskin A500	12.00
Safeskin A2000	12.00
Safeskin A3000	12.00
Sharp JX-100	CALL
Sound Master	119.95
Super Gen 2000S	1319.00
Syquest 44MB Removable	375.00
Syquest 44MB External Drive	515.00
Syquest 44MB Cartridges	89.95
Syquest 88MB Removable	495.00
Syquest 88MB Cartridges	129.00
Video Director	135.00

A500 Hard Drives

GVP A500-HD8+0/52Q	509.00
Trumpcard 500 AT 52MB	449.00
Trumpcard 500 AT 105MB	579.00
Trumpcard Pro	229.00

A2000 Hard Drives

GVP A2000-Ram 8/2	179.00
GVP A2000 8/0 w/120MB	549.00
IVS Grand Slam	239.00
Trumpcard Classic - A2000	79.00
Trumpcard Pro - A2000	149.00
Quantum Hard Drives	CALL
213MB Maxtor	CALL

GVP ACCELERATORS

A3022 Series II-1MB/25MHZ	CALL
A3033 Series II-4MB/40MHZ	1149.00
A3050 Series II-4MB/50MHZ	1539.00
GVP G-Force 68040/3000	2099.00
Progressive 68040-A2000	1695.00

To Order Call
1-800-231-0359

Illinois Orders Call 1-708-893-9614
For Product Information or Tech Support
Call 1-708-893-7464

FAX Number 1-708-893-2970
New products arriving daily!

FD Software
P.O. Box 68
Bloomington, IL 60108
Hours M-F 11-7 Sat 10-6

Shipping Info: Shipping \$4.50 per order, ships via UPS Ground. COD Add \$4.00. Call for Express shipping rates. Alaska, Hawaii, Mail, Foreign shipping extra. Oversize orders ship at current UPS Rates. **Return & Refund Policy:** Defective products replaced within 30 days of purchase. 15% restocking charge on All returned non-defective merchandise. **Other Policies:** VISA/MASTERCARD/DISCOVER-No Surcharge. Illinois Residents add 6.75% Sales Tax. Walk-in Traffic Welcome. Store prices may vary. Prices Subject to Change Without Notice.

The Big Three in DTP II

by Rich Mataka

In the May 1991 issue of *Amazing*, I wrote "The Big Three in DTP." Since that first article, the "Big Three," Soft-Logik, Gold Disk, and Saxon Industries, have not been idle. They have been busy bringing out new or add-on products for their desktop publishing lines. Additionally, the hardware on which we perform our DTP work has been undergoing changes for the better. This article will not compare the three DTP programs, but rather look at the current level of DTP software and hardware available in the Amiga industry for desktop publishing.

PageStream 2.2

PageStream, known as the "heavyweight" of desktop publishing, is now up to version 2.2. This latest version offers many types of new features. Most of the improvements to *PageStream* have been in optimizing the code and positioning the product for new options later in the year.

The most noticeable change is the interface. This version not only looks better but is also more functional and intuitive. There are more Tool Types for initializing the program. The Tool Types that are now available are Screen (Custom or Workbench), Interlace (Yes or No), Toolbox (left or right) and Colors (2, 4, 8, and 16). The only change is that it can now be positioned to your preference. Many of the other changes were internal to the programs operation. Table 1 shows the Miscellaneous Im-

provements that have been included in the latest version of *PageStream*. Additionally, the continued support of Adobe Type 1 and 3 fonts make *PageStream* a very popular program. Also, Soft-Logik has released its own font library by Image Club. I have had a chance to work with the Classic Fonts; they are high quality PostScript fonts. Soft-Logik currently offers all 600 of the Image Club fonts for use with programs that support Adobe Type 1 fonts.

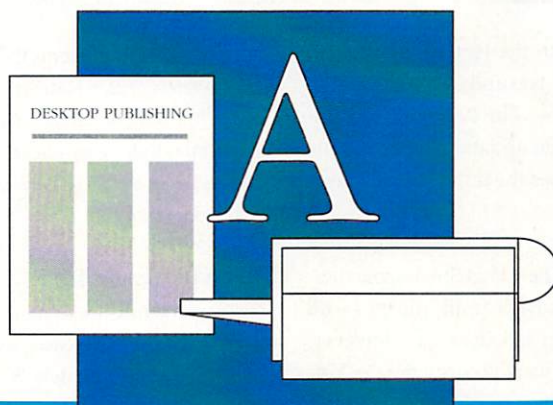
The other additions that have been made to *PageStream* 2.2 are add-on products that should be available from Soft-Logik by the time this article is read. These products are *PageLiner* (PL), *Bit-Mapped Editor* (BME), and *HotLinks* (HL). While the overall concept of these software programs is not novel, Soft-Logik's approach to this software development is different.

PageLiner

PageLiner is a special text editor that can be used from *PageStream*. *PageLiner* is not a "What You See Is What You Get" (WYSIWYG) word processor. *PageLiner* is meant to be

a simple word processor that will work directly with the IFFDTEXT files, which are the *PageStream* text format files.

The operation of *PageLiner* is rather simple. Through a product called *HotLinks*, updating of *PageStream* files is done interactively. The pull-down menus deal with the simple tasks of

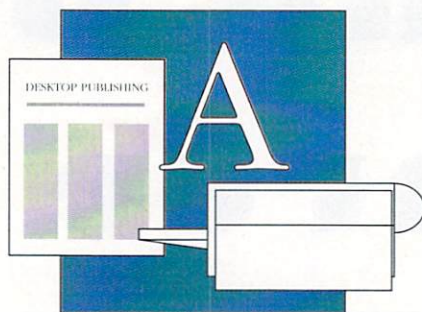


text editing. These consist of the Project Menu, the Edit Menu, the Move Menu, the HotLinks Menu, the Document Menu, and the Text Menu. On the surface this may seem that there is a lot to learn. However, the options within each Menu are relatively simple to learn and operate. PageLiner is an effective text processor that makes the editing of text easier.

Bit-Mapped Editor

The *Bit-Mapped Editor* (BME) allows you to edit a bit-mapped file and make any changes that you may wish. BME's original concept is to retouch scans or crop pictures for placement into PageStream documents. However, BME does have a powerful tool set that I'm sure will lead to more usage than just its original concept. The way that BME interacts and operates with PageStream makes it unique.

By itself, BME is a very simple program to operate. It can import many types of file formats directly and supports two methods of color definition, RGB and CMYK. However, when a picture is viewed on the screen in BME, it is viewed in a grayscale of 16 shades. This provides you with an excellent idea of how your picture will look on your PageStream page.



the HotLinks function of passing data to and from Amiga applications.

The HotLinks program is not a single program but is actually a number of integrated software modules. There is a program to log into Hotlinks, another to set up users, another to change a password, and another to delete publications. The operation of each program can be understood as the name explicitly defines its function.

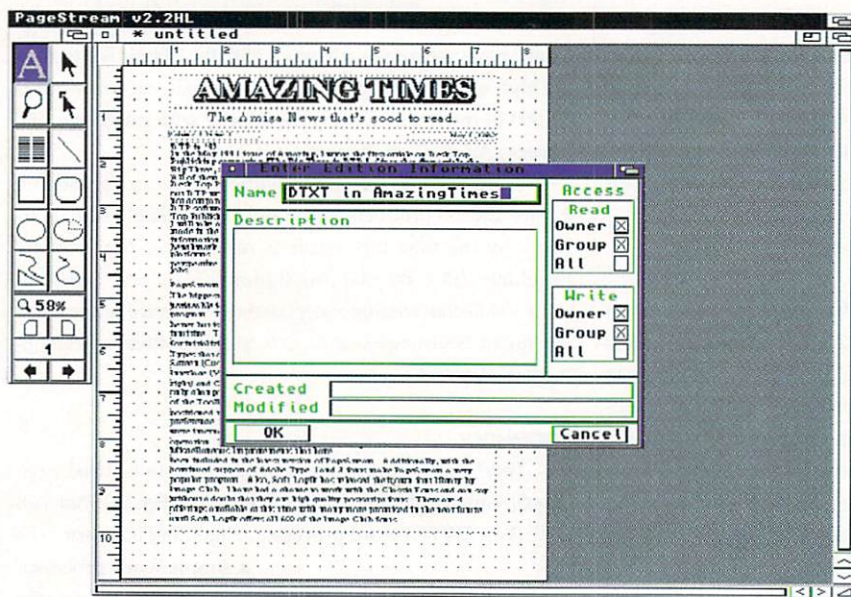
Data Sharing

The manner in which the programs function together is through the HotLinks program. So how does this process operate? Extremely well. All you really need to remember is Publish, Subscribe, and Update. Simple as 1, 2, and 3. The interaction of the three programs is smooth. While there are limitations on the type of picture files that BME can edit (no EPS file), it is still extremely useful for touching up pictures prior to completing your PageStream document. What must be remembered is that BME is not an art program like *DeluxePaint IV* or an image enhancement program like *The Art Department Professional*. BME falls between these two programs. The integration of Hotlinks, BME, PageLiner, and PageStream now gives you full control over your desktop publishing projects. Updating and processing information for desktop publishing are reaching new levels of sophistication from Soft-Logik. Also, Soft-

Logik has mentioned that there will be a network version of this software available.

Saxon Publisher

Last year I mentioned that *Saxon Publisher* had a long way to go before it would be a serious contender in the Amiga DTP arena and that it could be a sleeper. Well, Saxon has done a phenomenal amount of work in creating *Saxon Publisher Version 1.2*. It's a sign of Saxon Industries philosophy that they have not called this software version 2.0. They feel that in order to call their software a new version number they need a lot of additional functionality versus simple improvements. The functionality and power of the software have increased tremendously. *Saxon Publisher* could easily have been called a 2.0 release. Part



As with PageLiner, BME also operates with the HotLinks software. When you complete editing a picture in BME, you update the picture file and the original is automatically updated in your PageStream document. The Bit-Mapped Editor allows real-time updating of documents for bit-mapped pictures while PageLiner does the same thing for text.

HotLinks

HotLinks is the glue that puts the entire new PageStream together. The best way to think of HotLinks is as an invisible traffic director who is always directing the data to where you tell it to go. However, HotLinks is not only a directing device but also a security device. You must log into HotLinks with a User ID and Password to be able to use

of this increase in power is the bundling of the software package, *Saxon Script Professional*, a PostScript interpreter, with *Saxon Publisher*.

While both of these software packages are independent and can be run as stand-alone applications, they work extremely well together. When you learn to use *Saxon Script*, you'll wonder how you ever survived without it.

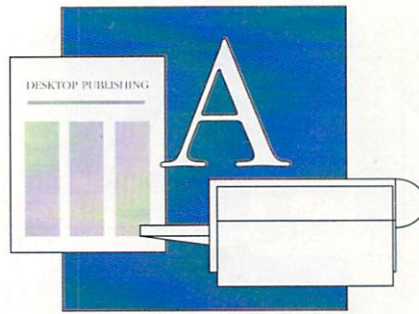
Saxon Publisher 1.2

Saxon Publisher Version 1.2 represents a significant improvement over the previous releases by Saxon Industries. According to Saxon Industries, approximately 30 percent of the previous release was rewritten in order to produce this version with the primary emphasis on

increasing the operational speed of the software.

Saxon Publisher now uses Type 1 fonts for all screen rendering. The combination of Saxon Script and its use with Saxon Publisher addresses earlier problems of dot-matrix printer support. Saxon Publisher also directly supports the import and use of Type 1 fonts in Macintosh and PC formats. Additionally, there is utility software provided to convert Type 3 fonts into the superior Type 1 fonts.

The only change to the menus used in Saxon Publisher is that the external menu has been reorganized to reflect internal changes. Bitmaps and structured drawings are now considered to be different variations of the same graphic type, and you can now have only one bitmap or structured drawing in a box instead

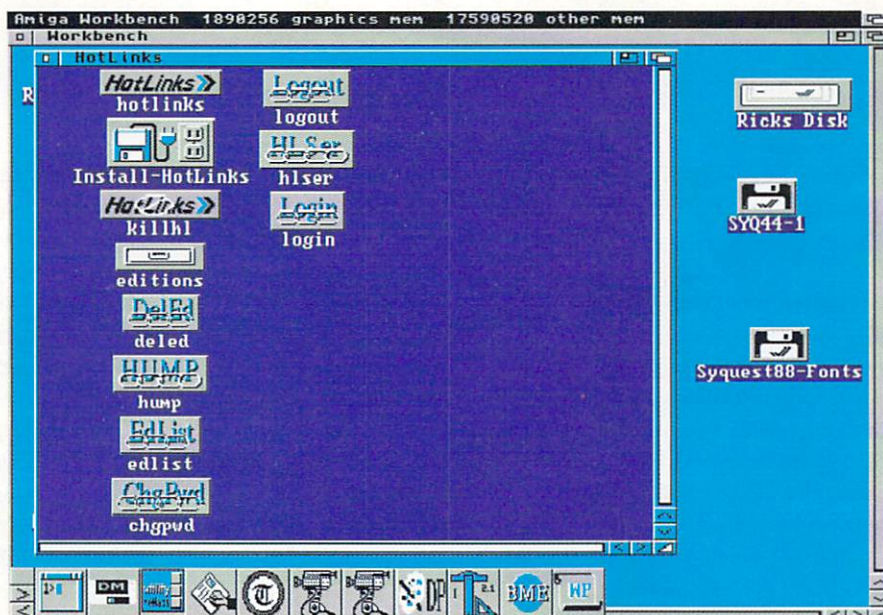
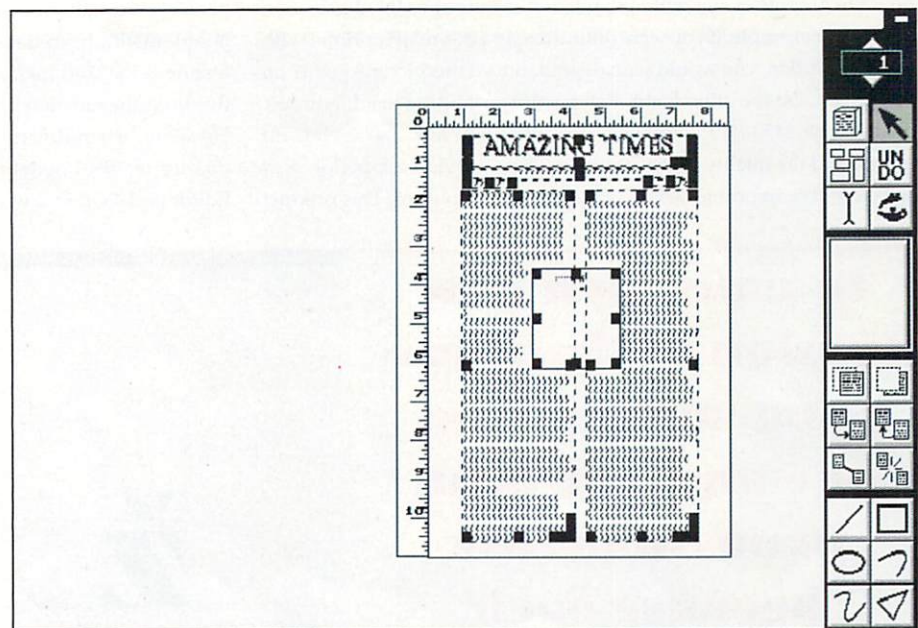


of one of each. The "Import ProVector" selection has been renamed "Import DR2D." This will be more important as new structured drawing programs are released supporting the DR2D file format. Also, Saxon Publisher 1.2 provides direct support for the *ProWrite* and *excellence!* file formats.

With Saxon now supporting Type 1 fonts, a new door is opened for the user of this software. There are numerous sources of public domain or companies selling Type

1 fonts. You would select the Font Manager Option from the Document Menu, which will provide a file requester allowing you to add a Type 1 resident font to Saxon Publisher. The files that you need to add this font are the AFM (Adobe Font Metrics) and the PFB (Postscript Font Bitmap)

As soon as a font is added, perform a quick test to be sure that the font kerning has been set up correctly.



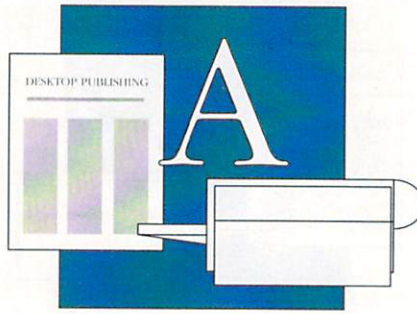
files. First select the AFM file of the font you wish to add then the PFB of the same font.

I would recommend that as soon as a font is added that you perform a quick test to be sure that the font kerning (spacing between characters) has been set up correctly. While I have encountered no problems with commercially available fonts, I have had problems with public domain fonts. However, a majority of the public domain fonts appear to work with no problems at all. So, Saxon Publisher can also be added to the list of Amiga DTP software packages that now support the Adobe Type PostScript fonts.

Saxon Script

Saxon Script was primarily designed to enable PostScript output on non-Postscript printing devices. However, Saxon Script goes beyond this concept. Those of you who have used the Amiga for some time have noticed that when you are printing a file to your printer, you can select either the parallel port or serial port. With the installation of Saxon Script, you define a new device, the "PSC:" device. Once mounted, either from the "Startup-Sequence" under Amiga DOS 1.3, or in the "WBStartup" under 2.04, the device is available for use. Now, all that you need to do is to direct your output to this "PSC:" device and the Saxon Script PostScript interpreter will take over and begin processing the information from Saxon Publisher.

The view that you see on the screen is the real representation of how the graphic or file will look when it is output to the destination device. For example, if you were outputting to a dot-matrix printer with a low resolution, you would see a degradation of this picture quality on this screen. On the other hand, if you were outputting to a Linotronic device with 2450 DPI, you could specify a high lines per inch (LPI) output and the quality of the picture preview would be superior. This screen is very important when previewing color output. This product



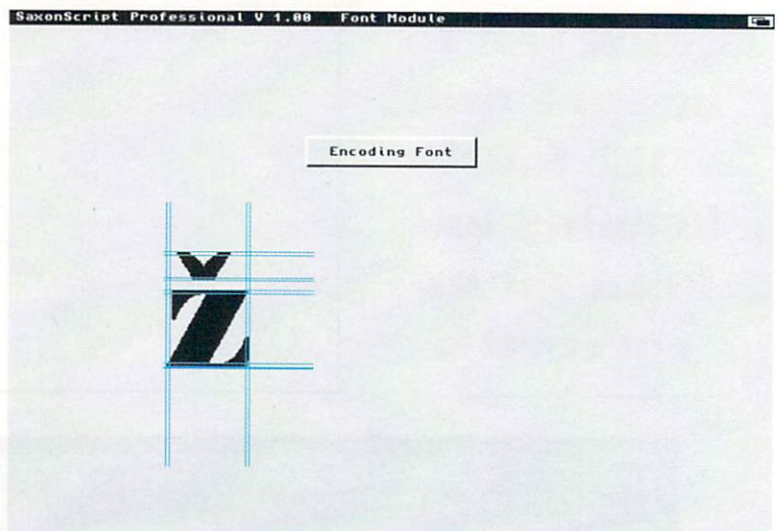
dramatically over the last year, becoming faster and more intuitive than its version 1.1.

Professional Page Version 3.0

Professional Page 3.0 is the latest version of the most popular selling Amiga desktop publishing program currently available. While the version that I have looked at for this article is in the final Beta testing stage, the software contains many improvements beyond the Gold Disk predecessors.

Those that are comfortable with earlier versions of PPage should note that all of the original PPage functions are still available. PPage was the first program to have an associated Article Editor. Switching, or Hotlinking, between the Article Editor and PPage 3.0 remains unchanged. Switching between the programs is as simple as pressing the Right Amiga "/" and any text that may have been changed is automatically updated between the programs. However, a new feature is the HotLinking between PPage 3 and *Professional Draw 3*. At this time, the function is not enabled because PDraw 3 is not available. However, when *Professional Draw 3.0* is released during the second quarter of 1992, updating documents between PPage 3, the Article Editor and PDraw 3 will then be accomplished through simple key-

To rate each new version of the three programs against one another is an impossible task because each program is maturing.



now provides you with a color pre-press view of how your graphic will appear on the final output. This gives you a chance to modify your graphics or document prior to sending them to the service bureau for final output.

An additional feature that is built into Saxon Script is an Image Conversion Utility. Since Saxon Script incorporates support for all of the standard postscript operators, additional display list processors to convert PostScript code into a variety of different file formats was made available. Also with Saxon Script you now have the ability to convert the inexpensive Type 3 fonts to Amiga bitmap, Adobe Type 1, PC Type 1, or a Saxon Publisher format font. The combination of Saxon Publisher and Saxon Script work together like a fine Swiss watch. Each program complements the other. Saxon Script by itself is well worth the investment for purchasing these products. Saxon Publisher has improved

stroke actions with all of the files being automatically updated.

Gold Disk also has been busy during the past year. As with their competition, speed improvements, new features, and ease of use were of main concern to Gold Disk. Professional Page also supports the Adobe Type 1 font families. The Adobe Type 1 format support is through a separate program called the Font Manager. The function that this program performs is the alteration of the Adobe Type 1 format fonts to the Compugraphic Format fonts that are the Professional Page standard. The use of this program is simple and straightforward. The conversion process is handled automatically. The placement of the converted files are in the CGFONTS directory of Professional Page. Once the conversion process has been completed by the Font Manager, the new font is automatically available. At the bottom of the screen requester there is a gauge that tells you the percentage of conversion

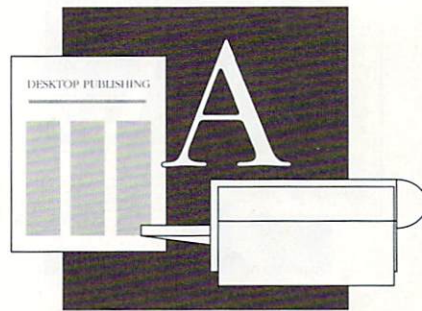
completion. Gold Disk has attempted to make the usage of Type 1 fonts as painless and simple as possible, as did Saxon and Soft-Logik. However, PPage 3.0 appears to have some problems when attempting to add some Public Domain Type 1 fonts. Whatever the technical problem is with the Type 1 font conversion, both Saxon Industries and Gold Disk encounter problems with the same fonts. I believe this is a problem with the fonts rather than either company's font-support program.

Another change to PPage 3.0 is the total support of ARexx, a very powerful addition to the program. Putting it simply, it is through ARexx that the new Function Genies and New Page definition Genies are created and supported. It is now a simple matter to create drop shadow headings through the use of Function Genies within PPage 3.0. Also, with Page Definition Genies, creating documents can be as simple as "filling in the blanks." PPage 3.0 has entered a class of its own with the addition of the Type 1 font support and the Genies.

Genies

There are basically two types of Genies supported within PPage 3. These two Genies are the Function Genies and the Page Definition Genies. The Function Genie Menu, which is selected from the main PPage screen from the Genie tool, supports three basic types of functions. These function Genies can be called Text Genies, Layout Genies, or Genies that can communicate with outside programs. There are approximately 50 pre-defined Function Genies supplied with PPage 3 that only scratches the surface. You can create your own Function Genies for your own special needs. Irregular Text flow around graphics is also supported. This is selected from the Alter Current Box menu from PPage 3.

The Page Definition Genie is a new menu item under Page Create. At the present, there are only six Page Definition Genies supplied with PPage 3. This is a very powerful feature of PPage 3.0 that will definitely



The Big Three

notes:

Professional Page 3.0

Price: \$295.00

Gold Disk, Inc.

**5155 Spectrum Way, Unit 5
Mississauga, Ontario, Canada
L4W 5A1**

(416) 602-4000

Inquiry #242

Saxon Publisher

Price: \$395.00

Saxon Industries

14 Rockcrest Gardens

Nepean, Ontario, Canada

K2G 5A8

(613) 228-8043

PageStream 2.2

Price: \$299.95

Soft-Logik Corporation

11131 S. Towne Sq. Ste. F

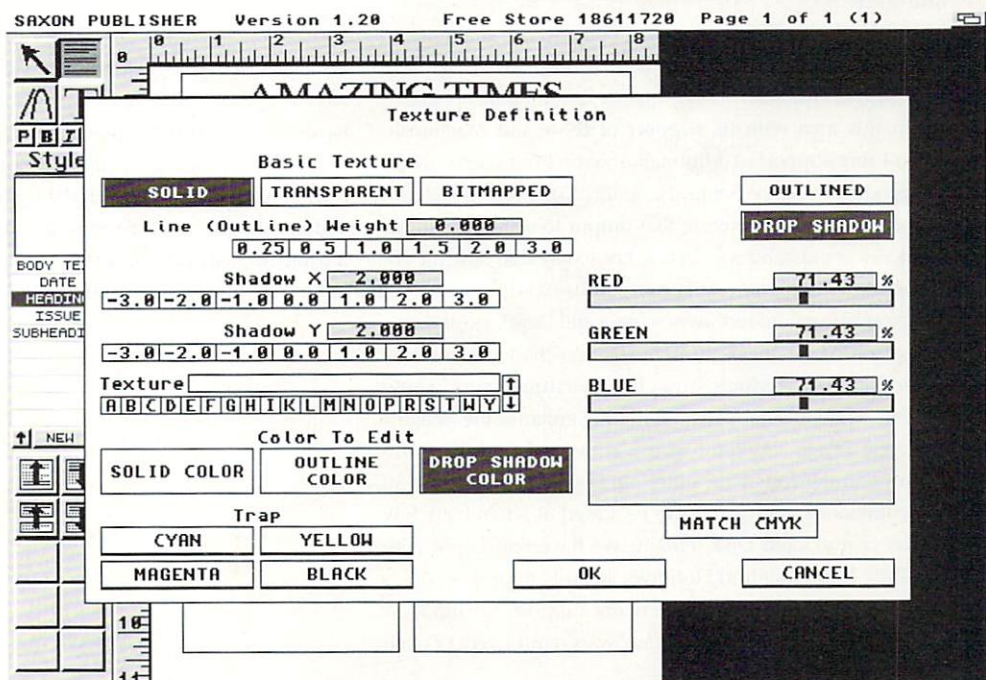
St. Louis, MO 63123

(314) 894-8608

Inquiry #243

Saxon Publisher v1.2 represents a significant improvement over the previous releases by Saxon Industries.

**in
DTP**



be of a lot more use in the future. The Page Definition Genie allows you to create document templates and use them in a "fill in the blank" style format.

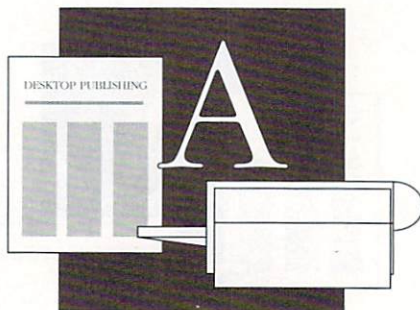
Under the Function Genies, there is the command to create Page Genies. Using this command allows you to create new Page Genies for Professional Page 3. These Page Genies could be specifically used by your business or clients. Also, it should be a simple matter to create business invoices or other business forms.

The new features offered by Gold Disks Professional Page 3.0 are well worth the upgrade. Its new functionality through the Genies and Type 1 font support make it a very powerful. Additionally, you can now think of PPage 3 as a modular program in that new additions or functions can be added through the creation of Page and Function Genies. Many new Genies will be released as users begin to realize the power behind this simple concept.

Summary

It is very difficult this year to be critical of the Big Three in DTP. All of them have done an outstanding job in improving their products during the past 12 months. No longer can I say that there is one company that is far ahead of the others in the Amiga DTP industry.

To rate each new version of the three programs against one another is almost an impossible task because each program is maturing. All of the DTP packages now support the Adobe Type 1 fonts. Saxon Publisher goes a step further in this area with its support of IBM- and Macintosh-formatted Type 1 font support. Additionally, Saxon Publisher is worth the cost of the product for Saxon Script. The ability to preview PostScript output to screen and then improving that output to standard Amiga preference devices is outstanding. That is not to say that Saxon Publisher is not an excellent program on its own because it is the quickest of the three packages to load and redraw screens. Gold Disk is positioning itself as a modular program that will interactively exchange data in real time with other Gold Disk products. It may be a short time before PDraw 3 is released, but when this happens it will only enhance the PPage 3 product. With the PPage 3 Genie concept, command additions and changes are now a simple fact of life with Gold Disk. This will enable all new types of commands and features to be added at a relatively low implementation cost to Gold Disk. Finally, we have Soft-Logik with PageStream, BME, PageLiner and HotLinks. Readily apparent here is Soft-Logik's positioning for Local Area Network support. The modular design of their software packages is in some ways reminiscent of Gold



Disk in that data exchange between programs is performed. However, it is the manner in which the HotLinks is implemented that is the major difference. HotLinks is not only the traffic director but also a security device. Through HotLinks you will be able to establish levels of security and decide who will have different levels of security access. You can have a read only access, read-write access, System Ad-

ministrator access, or many levels in between. This will open up some new areas of opportunity for Soft-Logik as LANs become more popular in the Amiga industry.

By this time next year, we should see all of the programs going through yet another evolution. I hope to see some support for 24-bit video. Special video driver support for the HAM-E from Black Belt,

Firecracker 24 from Impulse, DCTV from Digital Creations, Impact Vision from GVP, or any 24-bit boards should be possible. What do you think it would be like to view your DTP screens in full color? To see that 256-gray scale or 24-bit color picture on screen complete with text? To view the real quality of your document on screen before outputting it to your printer? The

Gold Disk, Saxon Industries, and Soft-Logik can all be commended for performing an excellent job. Due to the friendly but fierce competition between these companies, we, the DTP users, are the winners.

cost of sending your documents to service bureaus should also be decreasing as we begin to have preview capabilities with products such as Saxon Script. The next few months should be exciting from the hardware and software perspectives.

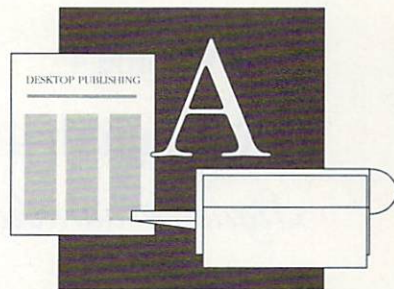
If you are using an older version of one of these three programs, then you will be happy with the update. Gold Disk, Saxon Industries, and Soft-Logik can all be commended for performing an excellent job during the past year. Due to the friendly but fierce competition between these companies, we, the DTP users, are the winners.

•AC•

Please Write to:
Rich Mataka
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

Fonts and AmigaDOS 2.04

by Morton A. Kevelson



Everything that appears on the Amiga's video display, text as well as images, is based on bit-mapped graphics. That is screen images are simply a rectangular array of colored glowing dots. Depending on the number of colors in the screen's palette, each dot or pixel corresponds to one or more bits in the Amiga's memory. Two color screens use a single bit for each pixel, four color screens require two bits per pixel and eight color screens need three bits per pixel. The number of colors in the palette corresponds to two raised to power of the number of bits per pixel. The hold and modify (HAM) display mode is an exception to this rule. With some digital sleight of hand, the HAM display manages up to 4096 colors on the screen at one time with only six bits per pixel.

Until the release of AmigaDOS 2.04, the Amiga's operating system relied entirely on bit-mapped fonts for its text display. The bit-mapped images that form the graphics for the individual characters are stored in a collection of files in the FONTS: directory. A detailed discussion on how the bit-mapped fonts files are managed can be

it to recognize the color fonts. With AmigaDOS 2.04, the ColorFonts program is no longer necessary. Support for color fonts is now built into the operating system. Color fonts can be used as the text display on the Workbench screen. In order to use a color font with more than four colors on the Workbench screen, just increase the number of Workbench colors by using Preferences.

Outline fonts are the major new attraction in AmigaDOS 2.04's text display capabilities. Unlike bit-mapped fonts, outline fonts do not rely on a fixed-size graphic representation for each of the characters. Instead, an outline font generates its characters from a mathematical formula which describes each image. The advantage of calculating the shape of each character is that the font is not restricted to a single point size. All it takes to generate a new set of characters in a different size is a simple scale factor or multiplier of the original formula.

The Amiga's structured fonts are based on Agfa Corporation's Intellifont font scaling-subsystem. Three scalable typefaces, CG Times, CG Triumvirate, and Letter Gothic are included on the distribution disks. Agfa presently has more than 1800 typefaces in its font library which is still growing. Of these, more than 250 are available as hinted Intellifont Scalable Typefaces and this quantity is increasing as well. A hinted scalable typeface includes special code which improves its appearance when it is displayed in a small size on a low resolution device such as the screen or a dot-matrix printer. Additional typefaces from the Agfa library can be converted to the Font Access Interchange Standard file format which can be used by AmigaDOS.

Although a scalable typeface can be used to generate characters in a wide range of sizes, it is still counted as single font. In comparison, each size of a bit-mapped font is usually added to the total count. The formula which describes a scalable typeface cannot be used to generate distortion free variations, such as bold or italic, of the original typeface. Instead, a separate formula, which is counted as an individual typeface, is used.

The related versions of a typeface are known as a font family.

Note that italic and bold variations of many Amiga bit-mapped fonts can be generated by distorting the original images. These bit-mapped variations are not counted as individual typefaces.

Fountain, the Amiga's new font management program, can be found in the System drawer on the Extras disk. As supplied, there are no bit-map representations of the outline fonts included with the system software although several bit-mapped sizes can be found in the font list. Instead, Fountain is used to generate bit-mapped versions of scalable fonts at any point size as needed. Once a fixed size bit-mapped font has been created and saved to disk, it can be accessed by any Amiga program, such as paint programs and WYSIWYG word processors that use bit-mapped fonts.

Point sizes that are included on the font list can be accessed by other programs as if their images have been saved to disk. The new font

Agfa Volume 36

ITC Zapf Chancery Medium 45

ITC Zapf Chancery Medium Italic 45

ITC Zapf Chancery Demi 45

ITC Zapf Chancery Bold 45

All the sample fonts shown are from the Agfa collection.

found in the sidebars to the 600 *Amiga Fonts* review in this issue. The latest release of the Amiga's operating system includes support for two new fonts structures: color fonts and outline fonts.

Color fonts can have more than the two colors that the standard Amiga bit-mapped fonts are limited to. The files that are associated with a color font are superficially similar to the original monochrome bit-mapped fonts. The only visible difference to the end user is that the font file names in the font subdirectories now indicate the number of colors as well as the size of the font. For example, a font file with the name 32.8C is a 32-pixel high font with eight colors.

Color fonts are accessed in the same way as their monochrome counterparts. Under AmigaDOS 1.3 or less, you had to run the ColorFonts program which patched the operating system and allowed

Agfa Volume 41

Old English 45

Signet Roundhand 45

Marigold 45

Goudy Handtooled 45

library, which is about seven times as large as the AmigaDOS 1.3 font library, will automatically create a bit-map representation on the fly. The fabrication process takes several seconds; however, it is only done the first time the point size is called for. This bit map is stored in RAM for the duration of the operating session or until a different font is created on the fly; however, only the application which called for this point size will know about it. If you are planning to frequently access a particular typeface in a specific point size, it will probably be worthwhile to save its bit-mapped file to disk. Fountain can also be used to add a bit-mapped point size to the font list without creating an actual bit map of the font.

The fonts that are used by Workbench 2.0 for its on screen captions can now be changed with Preferences' new font-management utility. Up to three different bit-mapped fonts can be selected to display Workbench's icon, menu, and screen text. If you choose one of the scalable typefaces, a temporary bit-mapped representation will be automatically created on the fly as was described above. As before, the bit-mapped image is retained in RAM until the system is rebooted or a different font is created.

Fountain can also be used to add new scalable typefaces to the system. To do so, you will have to start by purchasing one of Agfa's font collections on disk. More than 250 typefaces are available. Each disk contains four typefaces consisting of the basic font along with its italic, slant or oblique, and bold versions. A variety of three-disk font collections, with 12 typefaces in each collection is also available. For example, the Presentations Pack II comes with CG Century Schoolbook, a serif font, Shannon Book, a sans serif font and Brush, Dom Casual, Park Avenue, and Uncial, a set of four decorative fonts. This collection corresponds to Agfa's font disk numbers 9, 21, and 3. If you are interested in decorative fonts, consider Volume 41 of the Intellifont collection. The Old English, Signet Roundhand, and Marigold fonts on this disk are exquisite examples of ornate, script, and calligraphic fonts. This disk also includes the traditional Goudy Handtooled font.

Agfa's fonts are supplied on MS-DOS format disks. The font files can be transferred to AmigaDOS format disks by using a suitable MS-DOS to AmigaDOS copy program such as *Dos-2-Dos*. A better approach is to install an MS-DOS file system, such as *CrossDOS*, which lets the Amiga's operating system read MS-DOS format disks directly. Once *CrossDOS* is installed, Fountain can directly access the original font disk thereby eliminating the need to copy the original files. Agfa has recently reached an agreement with Consultron to supply Amiga users with a read-only version of *CrossDOS* upon request.

If you investigate the contents of the original Agfa font disk, you should find a sequence of files with names like F0001.FF, F0002.FF and

so on. You should also find files named DIR.TX and FONTIND.FI. If you are not using *CrossDOS*, all of these files should be copied from the Agfa disk to a suitable work directory on the Amiga side. Fountain displays the actual font names in the source directory and proceeds to automatically generate the appropriate CG files from the fonts that you have selected. Since all of the original Agfa font disks use the same file names, you will only be able to process one disk at a time. The procedure may take several minutes if you choose to process all of the fonts. When done, the names of the converted fonts will be listed in the Amiga's FONT: directory and the appropriate CG files will have been created.

As of this time, there is no direct way to generate hard copy based on the Amiga's scalable fonts. Work is under way to add hardcopy output from the scalable fonts in future releases of the operating system. The next stage will have the font system able to generate the typefaces to match the resolution of the output device. Applications will be able to access the outline fonts and use them to generate text at the maximum resolution of any output device. For some printers, such as the Hewlett Packard series III Laser Jets, the process should be trivial since Agfa's scalable font technology is built into the printer. All the printer driver would have to do is specify the font and its size and the printer would do all the work.

In the interim, other solutions will be developed by the ingenuity of the Amiga developer community. In view of the growing popularity of the scalable font technology, we should not have to wait very long. Some applications, such as *Professional Page*, *PageStream*, and *Saxon Publisher* already offer their own support for the Agfa Intellifont technology. As always, it will be the end user that reaps the greatest benefits.

•AC•

AmigaDOS 2.04
Commodore Business Machines
1200 Wilson Drive
West Chester, PA 19380
(215) 431-9100
Inquiry #203

Intellifont Scalable Typefaces
Agfa Corporation
90 Industrial Way
Wilmington, MA 01887
(508) 658-5600 ext. 2311
Inquiry #204

Please Write to:
Morton A. Kevelson
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

Agfa Volume 41

Signet Roundhand 75

Signet Roundhand 60

Old English 15

Old English 30

Old English 45

Old English 60

Old English 75

Signet Roundhand 45

Signet Roundhand 30

Signet Roundhand 15

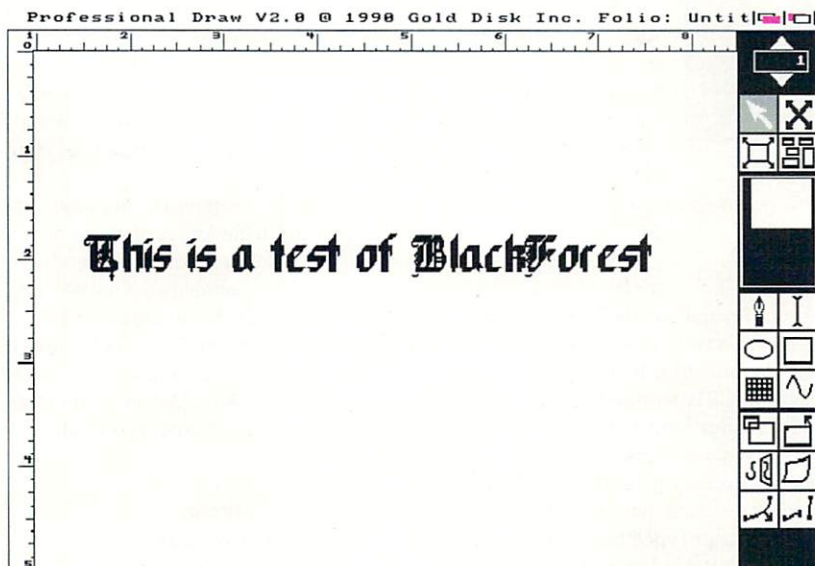
Two of the most popular programs available today are Gold Disk's *Professional Page 2.1* and *Professional Draw 2.0*. *Professional Page* is a Desk Top Publishing program and *Professional Draw* is a structured drawing program. In the world of Desk Top publishing, no one can argue that these software packages complement each other. However, one of the biggest problems to be encountered is the use of fonts with either *Professional Page* or *Professional Draw*. Purchasing additional fonts for either package has proved to be very expensive. This is where Mirror Image has come to the rescue with their products known as *Mlfont* and *Mloutline*. These additional software programs are for *Professional Page* and *Professional Draw* and provide font conversion so users can add fonts to these two Gold Disk programs.

Mlfont

Mlfont is a dual-purpose program that it is a font converter and a font manager. As an additional bonus, *Mlfont* adds approximately 50 additional characters. The manual supplied with *Mlfont* is quite long and extensive and it delves into the theory of fonts. While all the

with the software and to read the manual later. I don't often make this type of recommendation, but with *Mlfont* it works, as the program is very intuitive and the steps to converting fonts are straightforward.

Supplied with *Mlfont* is a utility called "UNSIT." This utility is supplied with *Mlfont* because a majority of the fonts that *Mlfont* converts are Apple Macintosh PostScript fonts. When you receive a font from a Public Domain source or from Bulletin Boards, they are condensed in a file called a "SIT" file. These SIT files are condensed files that need to be expanded. This is the only function of the UNSIT utility. The UNSIT program can only be run



information is excellent reading, it adds confusion when trying to run the program. The main *Mlfont* manual is approximately 70 pages, with an addendum, consisting of an additional 13 pages. To avoid confusion and cumbersome operation, Mirror Image is currently rewriting the manual to make it more concise and easier to understand, including a quick start section.

However, let me put your mind at ease—the software is easy to use. The easiest way to learn this program is to begin experimenting

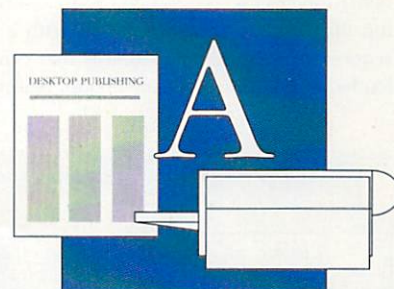
from the Amiga CLI, as it is not executable from the Workbench. The UNSIT utility is quite easy to use and extracts files with ease. UNSIT is a public-domain utility that unpacks Stuffit™ archive files and was written by Scott Evernden. It is included with *Mlfont* as a convenience because most Macintosh fonts are condensed in this format.

When you have extracted all the Macintosh files that you need, it is time to begin looking for the Macintosh screen fonts and

MIRROR IMAGE'S

Mlfont and Mloutline

by Richard Mataka



AFM files. Those are the files that we need to operate the *Mlfont* program. If all that are available are the Macintosh screen fonts, then those fonts will be translated for use as Amiga fonts. However, if we do see the AFM file, then we can also use the font for *Professional Page* with PostScript because the conversion is done automatically for you.

At first, all of this may seem confusing, but the operation of the program is very simple and intuitive. You begin the *Mlfont* program when you have decompressed all the files you wish to convert. You begin the program with the Font Manager screen. The first function that you should perform is to set your directory paths. Clicking on the "question mark" that's located in the center of the screen immediately brings up your "Path Selection" screen. Selecting the source line provides you with a directory requestor from which you select the source directory or path. You should perform this function for all the paths that you need to select. This is especially true if you are going to be running under Workbench 2.0 because the paths need to be explicitly specified for the font translations to be successfully completed.

Now that we have set our paths, it is time to "Convert" some fonts. Selecting the "Font Converter" button begins this process. Selecting this button will provide you with the Font Converter screen. From this screen there are four buttons that we have to choose from. The first is "Load Source" which will get the files that we want to convert. The second is "Update AFM" which are the font metric files that are sometimes supplied with screen fonts. Next is the "Metric Toggle" button. "Metric Toggle"

simply decides whether or not a Professional Page ".metric" file is to be created. If it is "off", then no .metric file is created. If the font is not represented in the Mifont.Lib file, then you can use the "Update AFM Data" function to add the AFM's information to the Mifont.Lib file, and then you can create a .metric file. If you don't have the AFM, you cannot create a metric file. This is with the exception of Adobe fonts because Mirror Image has already put all the metric bits from ALL Adobe fonts into the Mifont.Lib file. Mifont will NOT try to build a metric file UNLESS the extra metric bits for the font are present in the Mifont.Lib file.

The next button you would hit on the Font Converter screen is "Load Source." Pressing this button will present you with a file requestor showing font bitmaps that can be loaded into Mifont for conversion. Selecting

The reason you have to move a font after it has been converted is that the converted fonts are stored in a special, user-defined storage directory. They are then made available to the system by moving them to the FONTS: directory. Thereafter, you can use the Font Mover (and Font Maintenance) to move them in and out of the FONTS: directory, thus keeping the FONTS: directory uncluttered and manageable. This is very useful when your font library gets out of hand (say, 500+ fonts) and can also be used by people who use the fonts for different applications, like paint programs, animation, etc., allowing them to manage different kinds of Amiga fonts (DTP, video, etc.)

Though the bitmap fonts themselves are not PostScript fonts (that is, outline printer fonts), they can be used in Professional Page

and ProWrite to create PostScript documents. Therefore, if the outline printer font is available to the printer (via downloading), the fonts can be used as PostScript fonts, but only to a PostScript printer. Also, Mifont will convert any Macintosh or IBM printer font into a downloadable format, that Professional Page can send to the printer automatically, as it needs them. This provides

of the File Requestor. The program will begin the conversion process. While the program is converting the font, you are provided with status messages. These messages are keeping you advised of which characters are being converted. You are able to keep track of the total conversion process. The conversion process is completed very quickly and there is a new font that can be used by Professional Draw.

There is also a Visual Index feature which prints a number of sheets displaying all the characters and the key combinations to call them in Professional Draw. Additionally, there is a PDrawSampler utility, which does the same thing except to the screen. This is very useful utilities for figuring out how to call characters from symbol fonts. The Visual Index feature can also be used to create a type-spec catalog. There are both extremely useful features that users of Mloutline and Professional Draw will constantly be using.

Summary

When Professional Page and Professional Draw were first released, the only fonts that could be used were sold by Gold Disk. Mirror Image arrived on the scene and provides quality, easy to use software for font conversation. You may acquire these fonts from many Public Domain sources or Bulletin Boards. It will take some experimentation to find a good source of fonts but once you do the font conversation process is simple. Finding your Public Domain source will be more difficult than converting fonts! If all else fails, Mirror Image has a huge selection of fonts which they sell that are already converted for either Professional Page or Professional Draw.

Mifont and Mloutline are programs that fill a unique void in the Amiga market which is providing fonts for the Gold Disk products. Mirror Image has provided two outstanding programs both of which are reasonably priced for the job they perform. Both Mirror Image products are excellent. If you use Professional Page or Professional Draw, Mifont or Mloutline most definitely should also be in your software collection.

Mifont

Price: \$105.00

Mloutline

Price: \$124.95

Mirror Image Productions
30 Aurora Ct., Ste. 1209
Scarborough, Ontario
M1W 2M3, Canada
(416) 495-7469
Inquiry #209

Please Write to:
Rich Mataka

c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

all the files for conversion is done by selecting the "white bar" that is in the middle of the screen.

When some files have been selected, you will see a "CONVERT" bar appear and pressing once on this bar will begin the process of converting the fonts you have selected. Once the conversion process is completed, you receive a message that all fonts have been converted.

The final step in the use of Mifont is the movement of those converted fonts to the "FONTS:" directory. The "Font Mover" button is selected to move the fonts. When you are placed into the Font Mover screen you should see a list of the files that you had just converted on the left hand side of the screen. The only function that you have to perform on this screen is to select the fonts you want to move and then press the "Move Fonts" button. Just like magic, the fonts you have just converted are placed into your Amiga FONTS: directory and are available for use by Professional Page or any program that can use standard Amiga fonts.

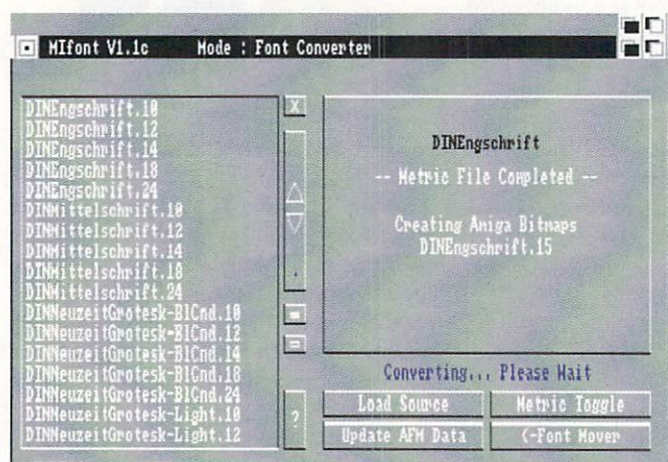
an invisible system for PostScript printer users.

Mloutline

What Mifont does for Professional Page and the Amiga Fonts directory, Mloutline does for Professional Draw. Professional Draw uses a different file format for fonts than the standard Amiga fonts. That means you cannot use the standard Amiga fonts that are converted with Mifont with Professional Draw 2.0. However, to the rescue again is Mirror Image with Mloutline which will take IBM and Macintosh Postscript Type 1 fonts and convert them for use with Professional Draw.

It appears that Mirror Image learned their lesson with the Mifont manual—the Mloutline manual is a concise 40 pages. The information is presented in a straightforward manner which makes learning the program a very simple task.

Double clicking on the Mloutline icon will start the program from Workbench. Initially presented will be a File Requestor, requesting you to select the source directory which contains the fonts you wish to convert. Locate the font that you wish to convert, select it, and choose the "RUN" button at the bottom



Someone once said that the Freedom of the Press is alive and well in America—as long as you happen to own one. Amiga owners have fortunately had a wide range of publishing options to choose from. Ranging from word processors to high-end page-layout packages, the Amiga market seems to have a healthy diversity of products for churning out all sorts of printed material.

Unfortunately, most of these packages are aimed at more experienced users with sophisticated needs. *Professional Page* and *ProVector* might be ideal for creating color magazines and other glossy offerings, yet they simply are too complex for novice users to grasp, or even need. In answer to this unfortunate gap in the Amiga software arena, Queue has released *Pelican Press*, an easy and fun-filled publishing package geared for novice and young users. Surprisingly, *Pelican Press* offers a hefty set of features that make it more usable than its name and packaging implies.

Pelican Press ships on three unprotected diskettes, consisting of the program diskette and two art disks. An included hard disk installation program transfers the program to your hard disk. Although a hard disk isn't required, *Pelican Press* runs much more quickly when installed upon one. Once installed, *Pelican Press* and all of its clip art files occupy a tad under 2MB of hard drive space. The program isn't copy protected, and it works fine on all Amiga models, including those running AmigaDOS 2.0 or sporting faster CPUs.

Upon starting the program, you're treated to a short animation of a grinning pelican flapping its way across the title screen. After you've viewed the animation, which can be bypassed, the format selection requester appears. From this menu, you can choose to create one of six primary project types: posters, cards, signs, calendars, notes, or banners. Amiga owners familiar with Broderbund's *Print Shop* or Unison World's *PrintMaster Plus* will recognize this approach. Those two programs offer similar, structured approaches to publishing—a snap to create something in the formats provided, an arduous endeavor trying to accomplish something more. In this respect, *Pelican Press* handily beats these programs at their own game, as well as surpassing its closest competitor in the Amiga market, *DeluxePrint II* by Electronic Arts.

Pelican Press offers this flexibility partly by bundling a full-featured paint program with the package. Although by no means a replacement for *DeluxePaint*, these drawing tools give *Pelican Publishers* much more control over the end product. Tools exist for drawing lines, squares, circles, and other objects, as well as a limited ability to rotate, resize, and otherwise transform IFF brushes. Strangely, the included "undo" feature works only with the drawing tools, and a magnify tool is conspicuous by its absence.

Another reason for that flexibility is the approach the designers took in regards to

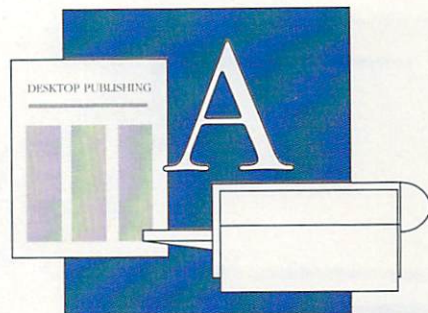
QUEUE'S

Pelican Press

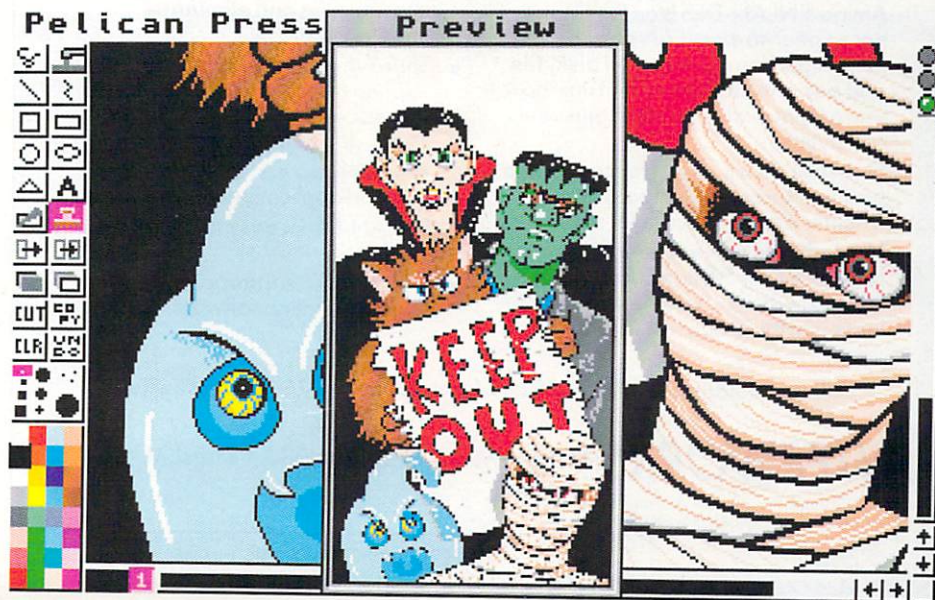
by Jeff James

document creation. Instead of simply allowing users to "fill in the blanks" of rigidly designed templates with text and graphics, Queue followed the lead of more traditional publishing packages and designed *Pelican Press* around the "pasteboard" metaphor. Used mainly in programs such as *Professional Page* and *PageStream*, placing graphics and text on your design is analogous to conventionally pasting your text and graphics on a non-computerized pasteboard. Although *Pelican Press* cannot import ASCII text files from word processors, the included text creation tool is more than adequate for most small publishing projects.

The instruction manual, a thick 98-page tome with faint, hard-to-read text, lists dozens of uses for *Pelican Press*, such as creating wrapping paper, newsletters, letterhead, and several other documents. More ambitious projects should be wisely reserved for more capable publishing packages such as *PageStream* or *Saxon Publisher*, yet the versa-



The clip art and paint program included with *Pelican Press* will allow you to spice up any project.



tility and usefulness of Pelican Press shouldn't be underestimated.

In addition to the program's flexibility, the abundance of expertly drawn clip art is a blessing. Queue obviously new the value of good artwork, as each of the included pieces of artwork is bright, cheerful, and cartoonish—perfect for light-hearted publishing work. A 31-page clip art guide displays each of the included pieces of art.

Besides "rolling your own" clip art with the included paint program or utilizing the excellent clip art samples, Pelican Press allows users to import IFF brushes and pictures for

use in the program. Unfortunately, the level of support is rather sparse. You can use only lo-res (320 X 200), 32-color images; HAM and 64-color images aren't supported. Also, imported images must have their palettes manually remapped within either Pelican Press or another paint package. An automated conversion process (with an appropriate requester) would be a welcome addition.

Since Pelican Press is geared for the younger Amiga user, it sports a variety of novel and creative accouterments. All of the program's tools are masked by a slick, AmigaDOS 2.0-style interface, with plenty of

beveled buttons, sliders, and gadgets to click or drag. A "traffic light" in the upper right corner of the work area quickly tells the user how much memory is available in the system: a green light reveals that plenty of memory is available; a yellow light warns of a possible memory shortage, while the red light means you're essentially out of memory. The program even saves each of the six project types (i.e., banner, calendar, etc.) with its own individual icon, making it easy to find your garage sale sign amidst other project types.

Using most of those six project types was an exercise in point and shoot simplicity. However, I did have a few difficulties using the banner function. Entering a text string longer than what can be displayed in the text gadget results in Pelican Press informing me that it has a "file creation error" when saving the banner. To add insult to my injury, the program has available only two banner fonts suitable for banner printing (serif and Helvetica), and all of the program's drawing tools are unusable for coloring banners.

The lack of support for such things as text files and PostScript output preclude Pelican Press from truly professional work, although the output from a Hewlett Packard Paintjet is decidedly impressive. The banner printing part of the program needs some work, and a universal undo feature is essential for a program of this nature.

Aside from those problems, Pelican Press is simply a blast to use. Behind all of the bright cheerfulness of the graphics and images lies a surprisingly powerful creative tool usable by kid of all ages. Although it might not replace the high-powered (and higher-priced) Amiga publishing tools such as ProPage and PageStream, I guarantee you'll find using Pelican Press much more fun.

•AC•

At Last! Peer to Peer Networking for the Amiga!

Interworks introduces its Ethernet-based Distributed File System, for the Amiga. ENLAN-DFS is an Ethernet based peer-to-peer LAN solution for the Amiga. You get powerful **disk, file and peripheral sharing** that until now was only available on other personal computers.

ENLAN-DFS is just right for connecting your workgroup of Amiga systems, whether it's two or twelve or more!

No dedicated server is required: any system can publish its resources and they immediately become available to the rest of the group.

- Share disk volumes, directories, and files. Everyone can access the same common files and **eliminate sneaker-net**.
- Share your peripherals. That expensive laser printer can now be shared by everyone on the network
- Assign passwords and/or allow read-only access to protect system files and applications.
- ENLAN-DFS is **easy to install and use**.
- ENLAN-DFS is transparent to all your application software.

Call us at (800) 321-3893 in US and Canada. (508) 476-3893 elsewhere.

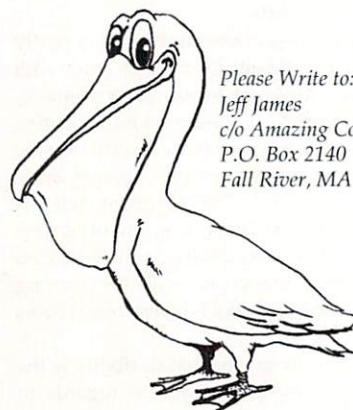
INTERWORKS 195 East Main Street, Suite 230, Milford, MA 01757

ENLAN-DFS is a trademark of Interworks. Amiga is a registered trademark of Commodore Business Machines, Inc.

Dealer inquiries welcome

Circle 104 on Reader Service card.

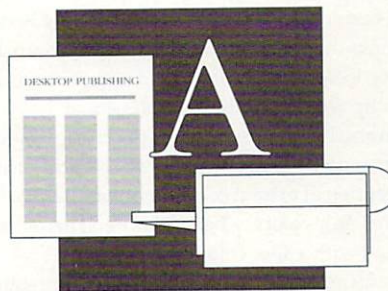
Pelican Press
Price: \$99.95
Requirements: 512K RAM, 1 MB RAM recommended
Queue
338 Commerce Drive
Fairfield, CT 06430
(800) 232-2224
Inquiry #202



Please Write to:
Jeff James
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

Selecting and Using Structured Clip Art

by Jason R. Hardy



Clip art provides pre-drawn graphics for use in desktop publishing programs. These images are used typically to emphasize an idea or a theme. Applications may include the addition of a graphic to a school newsletter by a hobbyist. If the quality of the clip art is sufficiently good, it may also be used in the professional production of items such as business cards or restaurant menus.

Amiga clip art is available in both bitmapped and structured formats. High resolution bitmapped clip art images with a large number of pixels can produce high quality results for desktop publishing. However, these occupy a large amount of disk space, take a long time to print, and can be used only over a limited range of magnification before appearing jagged. Low resolution bitmaps, on the other hand, are best suited to video production.

A structured graphic format, such as that produced with *Professional Draw*, is best for desktop publishing. The greatest advantages of

structured graphics are the smooth curves which are produced regardless of image size and the relatively short printing time, even at high resolutions. Because of these benefits, this article will concentrate on the use of structured clip art in desktop publishing programs.

Characteristics to consider when purchasing structured clip art include the availability of images in color, the use of blending or gradients between colors, and the level of detail contained in the images.

For applications such as newsletters, clip art is often added primarily to help fill the available space. In this case, clips are generally used without modification if they are consistent with the theme of the article. Alternatively, if the clip art is being used in a magazine advertisement or in the creation of a logo where detail is important, some changes will routinely be made to the clip to ensure an exact match with the intended purpose. Thus, the ease with which clip art can be modified by the user can also be an important consideration in purchase decisions.

Color

If you will be producing color separations or creating output directly from a color printer, the clip art you purchase should be in color. It is normally quite difficult to add color to black and white clips without dissecting and then re-creating the clip. Properly designed color clip art can also be used directly in black and white desktop publishing, and will produce appropriate grey levels without modification to the original clips.

If the colors in a clip have been defined as process colors, the clip can be used directly in a three- or four-color separation. However, it is much less expensive, and often very effective, to redefine the colors to print the majority of a clip in black and white, but emphasize a portion of it with a spot color.

The ease with which color changes can be made depends mainly on how the original clip was created. The procedure is very simple, if the colors are specified uniquely. This could be done, for example, by identifying the object to which each color applies. A name such as BoxPink would readily signify that this is the color to be modified to redefine the portion of the box that is pink. In this case, other objects would not be affected, and the color could be modified directly in the desktop publishing program without changing the clip itself. However, if the color of the box were specified only as pink, the actual clip could require modification. This would make it more difficult to modify colors, particularly for complex clip art.



Gradients

A clip can often have two significantly different colors, including black and white, beside each other. A small gradient between these colors will often make the clip appear smoother and more natural. Most of the time, a person looking at the clip would not specifically notice the gradient, but the clip will appear more professional.

Blending can also be used to give an appearance of light falling on an object. This can make the clip appear more realistic. Blending even provides the perception of extra colors without adding to the expense of using additional ink colors when printing. This is particularly effective when used with a spot color.

The color gradients which come with a clip may require modification, even when the color spectrum matches your requirement. Files containing gradient fills of many steps can be extremely large. Thus, clip art generally contains a limited number of steps to conserve disk and memory requirements, permitting use with unexpanded computer systems. For many applications, this original gradient can be used as is. However, for the printing of a magazine or other professional applications which require the use of a high resolution imagesetter, the original clip may produce unacceptable bands of color, rather than a smooth gradient.

To optimize the use of a clip for these professional applications, one would often find it easier to delete and then reconstruct the gradient, than to attempt to modify it. It is not normally necessary to

With structured clip art, details are added, and areas of different color are produced by means of overlapping objects. A clip containing a large amount of detail may have the edges of two objects overlapping at a common boundary.

When modifying clips containing overlapping edges, one should retain a high degree of alignment. Otherwise, the edges will not print properly, thus detracting from the overall quality of the clip. Should you accidentally misalign overlapping areas, alignment can be easily re-established by grouping all the objects and scaling their size by 1000 percent. Then zoom into the locations of the overlapping lines and move the lines so that they coincide exactly. Do not ungroup the object while it is enlarged, or parts of the clip may be lost from the page.

Symmetry

Retaining or creating symmetry is an important consideration when modifying a clip. An obvious example of a clip which would have little value is a bottle which is not symmetrical. Such a clip would appear amateurish. Other objects which lack symmetry form less obvious examples, but can have a significant impact on the perceived quality of a clip.

Symmetry is best achieved by drawing or modifying half the object about its axis of symmetry and then cloning and mirroring the original half of the object. The cloned portion should then be joined to the initial half of the object. This produces a symmetrical object.

Characteristics to consider when purchasing structured clip art include the availability of images in color and the level of detail contained in the images.

isolate and save more than one boundary of the original gradient, even when more than one color range is being used, such as blending from red to green and then green to blue, rather than using a single gradient from red to blue. It is better to isolate one of the boundaries which can be cloned and resized, and then used as another boundary. This will eliminate unpredictable effects which can occur between boundaries of different shapes. Even when the shapes of the boundaries are almost exactly the same, they may not blend properly if, for example, they were not all drawn in the same direction, that is, counter-clockwise or clockwise; or that they contained a different number of points.

In modifying a blend, there is no benefit to creating more steps than your printer can resolve. Doing so simply wastes memory and produces unnecessarily long printing times. The ideal number of steps to create for a blend can be approximated by squaring the ratio of the dot density of the printer (in dots per inch) to the screen density used for the printout (in lines per inch). For example, a blend of 100 steps should be created for a 1270 DPI imagesetter printing at 127 lines per inch. As the size of the printed image is increased, the number of steps should also be increased.

Detail

High quality clip art generally contains a significant amount of detail. The greater the detail, the more realistic the image appears, thus permitting use in a wide range of both hobbyist and professional applications.

Although it is possible to draw the whole object in a single step, it can be difficult to ensure symmetry.

There is a wide range of Amiga clip art available in different formats and quality. To get the most out of the clip art you purchase, be sure it has the characteristics of color, detail, gradients, and ease of modification which suit your intended range of application.

•AC•

Jason R. Hardy is the President of Artistic Software Inc., a producer of Amiga clip art. He can be reached at:

*Artistic Software, Inc.
55 Selwyn Place
Kanata, Ontario K2K 1P1
Canada
(613) 591-6039*

ALLIED STUDIO'S

600 Amiga Fonts

Morton A. Kevelson

I am a font fanatic. Some people collect stamps, others collect porcelain figurines, and some collect 50's doo-wop music from the original master tapes on compact discs. I do two out of three of the above and I also collect Amiga fonts. I am not certain as to why I am motivated to accumulate fonts. Perhaps the reason is that I am an avid reader, or, perhaps it is because I earn part of my livelihood by writing for Amiga publications. In any event, when I heard of Allied Studio's 600 Amiga Fonts collection for a mere \$30, I felt compelled to obtain a complete set.

The Collection

600 Amiga Fonts is provided on six disks.

By my count, the collection consists of 616 font files in 257 font faces ranging in size from 5 pixels to 122 pixels with the majority in the 12 to 50 pixel range. The total collection occupies 4,167,136 bytes. All of these fonts are simple two-color fonts; there are no color fonts in this collection. The fonts were selected and converted from the Berkeley Macintosh User Group's 38 disk Font Library to the Amiga bit-mapped font format by Lion Kuntz. If you have been hanging around Amigas as long as I have, you may recall Lion Kuntz's *CalligraFonts*.

Although the BMUG fonts are in the public domain, 600 Amiga Fonts is not. By virtue of the time and effort involved in converting and fine tuning the original Macintosh fonts into the Amiga format, Lion Kuntz has firmly affixed his copyright to this collection. Of course, if you wish to save the \$30 needed to purchase these six disks, you can invest a comparable amount to obtain the original Macintosh versions and do your own conversion work. I do not know how much time this effort would require, but I do know that I am not willing to work for such a meager rate of return. This collection is well worth the money.

The documentation that accompanies 600 Amiga fonts is somewhat skimpy. About a half a page is devoted to concise instructions on how to install the fonts on your system. Another 18 pages is devoted to printed samples of

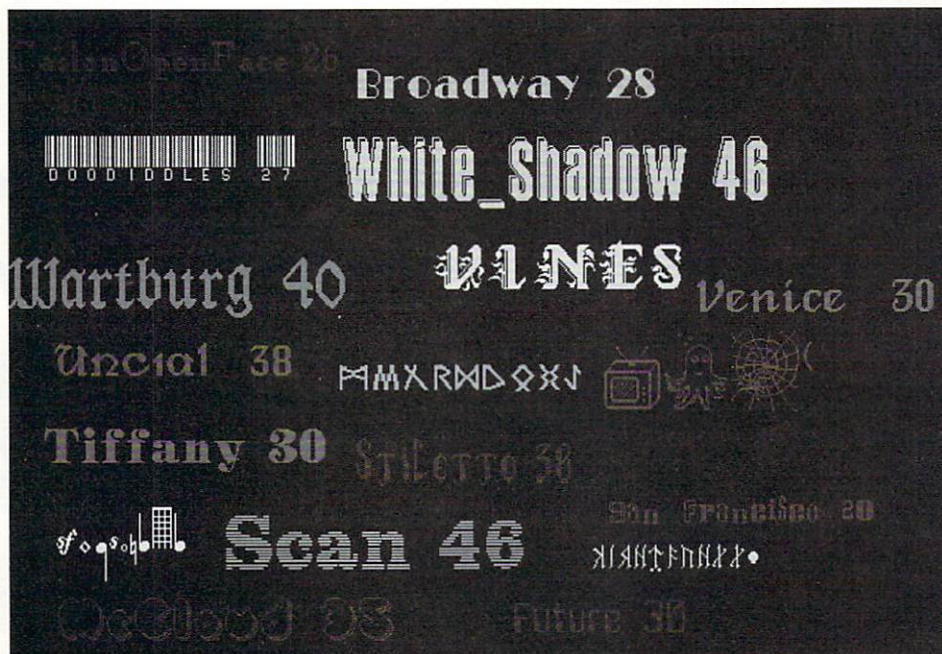
about 4/5 of the fonts in the collection shown at an 80 percent size reduction. I have no complaints about the size reduction. As shown in the sidebars, the actual size of the output font will depend on a number of factors including the resolution and type of display medium. It would have been helpful if printed samples

of dice, or the Music 41 and 56 fonts whose characters let you type sheet music with your graphic word processor. There was even a font where each character is a miniature map of one of the 50 states instead of the alphabet. A smattering of foreign character sets, such as Abu Dhabi, Greek, and Hebrew were thrown

in as well. Other faces, such as Elvish and Isengard, belong to the realm of the imagination. These esoteric typefaces would have benefited from a sample keymap showing the correspondence between the characters and the keyboard.

Overall, the shortcomings of this collection, which are really associated only with the documentation, were relatively minor. If you are

looking for a large variety of bit-mapped fonts for a minimal investment, you will not go wrong with the 600 Amiga Fonts collection.



of at least a single point size for every character in every type face were included. On the other hand, I was pleasantly surprised by some of the discoveries I made when I browsed through the collection.

The font faces cover just about every possible font that I could think of as well many that were beyond my comprehension. There seemed to be an endless supply of serif and sans-serif body faces as well as an ample array of decorative fonts. Some of the fonts had nothing to do with text at all, for example, the Las Vegas 56 font whose characters consist of a complete deck of playing cards and a variety

600 Amiga Fonts

Price: \$30.00

Allied Studios

482 Hayes St.

San Francisco, CA 94102

(415) 863-1781

Inquiry #208

Bit-Mapped Fonts and the Amiga

by Morton Kvelson

There are two computer text display technologies in use at this time: structured fonts and bit-mapped fonts. Structured fonts are based on a mathematical representation of each character. When a character is to be displayed, the computer calculates its size and shape based on a set of formulae and then causes the display hardware to generate the appropriate pattern. Structured fonts have the advantage of always presenting the same appearance, whether they are viewed on the printer or on the screen, within the limits of the resolution of the display device. Structured fonts can always be displayed using the maximum resolution of the output device. They can also be scaled to any size without any loss of quality. The disadvantage of structured fonts is that they tie up the processor and slow things down while the computer calculates their shapes for display. Structured fonts have generally been employed only by the printing and publishing industries. Other than for page layout programs, the Amiga has not had much to do with structured fonts. However, this may change shortly as AmigaDOS 2.0 includes direct support for structured fonts.

Bit-mapped fonts represent each character in the set by a dedicated dot-by-dot image. Bit-mapped fonts have the advantage of speed. Since the images are prefabricated and stored in tabular form, the computer can quickly place the characters on the screen as required. With the use of a fairly simple program, end users can easily modify the existing fonts or create a brand new bit-map font from scratch. However, the font creation activity does require considerable patience and some artistic talent. The disadvantage of the bit-mapped font is that once the images

have been defined, that is the end of it. Any attempt to scale a bit-map font invariably leads to a loss of quality.

In order to ensure a high quality appearance, a different set of characters has to be created for every point size that will be used. Since the resolution of different output devices is never equal, optimized character sets have to be created for the screen and printer. This is why the hard copy output of most WYSIWYG word processors rarely looks as good on paper as on the screen.

For the Amiga, bit-mapped fonts form the bases of all screen text displays. In fact, the Amiga's operating system makes it very easy for applications to access a large variety of bit-mapped fonts for their own use. AmigaDOS is initially supplied with a modest selection of font faces and sizes and it is fairly simple to add additional fonts to the collection. The Amiga's fonts are stored in the operating system's FONTS directory.

The Amiga's font information is stored in two kinds of files which are located in the FONTS directory. These files contain the information which tells AmigaDOS where to find the font bit maps or image data as well as the type of fonts and what sizes are available. The bit-mapped fonts can be classified in several ways. The most common distinction is between fixed spacing and proportional spacing. In fixed spaced fonts, each character occupies the same amount of space along the line. In proportional spaced fonts, the distance between characters has been adjusted to match the width of each character.

High Quality Printouts with ProWrite

by Morton Kvelson

If you have been working with any of the Amiga's WYSIWYG word processors, you may have noticed that the quality of the printed text does not seem to match what you see on the screen. The fonts, which looked very attractive on the screen, have a jagged or stair step appearance on paper, especially in the larger point sizes. The problem has to do with the different resolutions of the screen and printer and the way we perceive the text. Screen resolution is between 70 and 80 dots per inch. We have grown accustomed to this limitation of the video display screen and have learned to accept it. On the other hand, even low-cost dot matrix printers can output text at 120, 240 and even 360 dots per inch and laser printers routinely work at 300 dots per inch.

When you output text using the printer's built-in fonts, the printer automatically uses the maximum resolution for the selected output quality. When you output text with a WYSIWYG word processor, even if you select the maximum printer resolution in Preferences, the word processor automatically tries to scale the output to about 80 dots per inch. The result is that every font pixel is reproduced in excruciating detail at about 80 dots per inch. Setting the printer resolution to 300 dots per inch does not help as the 12 pixel characters still have a only maximum of 12 dots from top to bottom.

If you are using *ProWrite*, a word processor from New Horizons Software, there is away to avoid the problem and generate near-laser-quality output using the Amiga's bit-mapped fonts on any dot matrix printer. Here is how it works.

Step 1 - Enter your text as usual. Other than paragraph endings, do not pay attention to the page layout at this time. For reasons which will shortly become obvious, page layout will be taken care of as the last step.

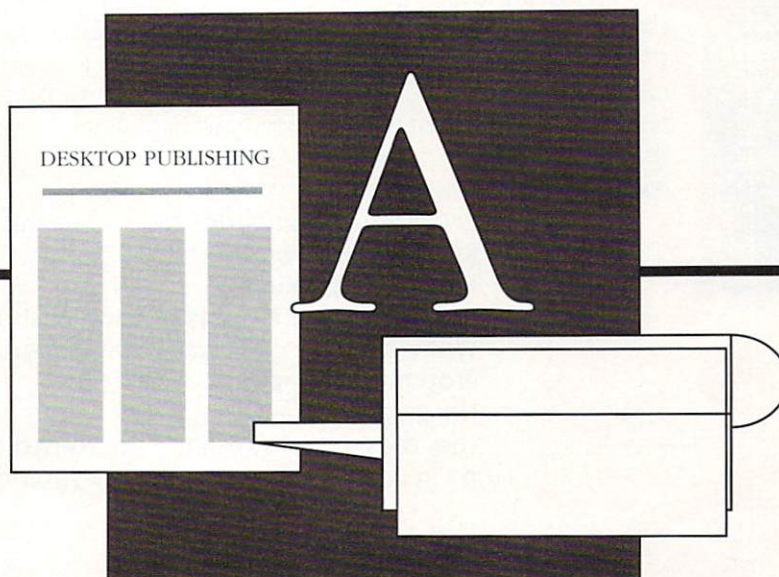
Step 2 - After the text has been entered, call up ProWrite's Page Setup requester. Set the reduction to some value less than 100 percent and choose a print resolution which is higher than the minimum. The exact values will vary depending on the resolution which is available with your printer. On my Panasonic KX-P1124, which uses the EpsonQ driver, I found that a reduction of 50 percent along with a printer resolution of 180 x 180 dots per inch gave excellent results. Make sure that the Aspect Adjusted option, which is found on this requester, is turned off. Aspect Adjusted tells ProWrite to try to emulate a printed resolution of 80 x 72 dots per inch on your printer. If your printer's resolution is not a multiple of these values, the bit-mapped fonts may be distorted when printed. Turning Aspect Adjusted off forces ProWrite to use an integral multiple printer dots for each screen pixel. By telling ProWrite to perform a 50 percent reduction of the output using a resolution of 180 dots per inch, you will force the program to generate a one-to-one ratio of screen versus printer pixels.

Step 3 - In this step you will select the font faces and styles that you want for the final output. Since you have told ProWrite to reduce the output, you will have to select larger font sizes to obtain normal output sizes on paper. The reduction in output also causes ProWrite to increase the size of the screen display. This means that very little text will be

The actual picture or bit-map information for each character in the font is stored in a collection of subdirectories which are located in the FONTS directory, for example, the ruby subdirectory or the topaz subdirectory. If you examine the contents of one of these subdirectories, you will find a collection of files whose names are numbers such as 7, 11, 14 or 28. These numbers represent the vertical screen space in dots or pixels that the font will occupy as well as being the name of the file.

If you want to examine the font pictures in detail, modify their appearance, or even create a font from scratch, Commodore has provided the means for you to do so. On the Amiga DOS 1.3 Extras disk, in the Tools directory, you will find the FED program. This handy little utility will let you work on any two-color font with a size as large 32 pixels. The instructions for using FED are on page 6-1 of the AmigaDOS version 1.3 Enhancer Software manual. If you want to work with fonts larger than 32 pixels, or if you are interested in color fonts and other special effects, then you will have to find another program such as InterActive Softworks' *Calligrapher* font design program. Calligrapher will let you do just about anything you can imagine with a font and a lot of other things that you have probably never even thought about.

Adding bit-mapped fonts to the Amiga is simply a matter of obtaining or creating them



visible on the screen. Using an interlaced display will let you see more text on the screen. Use ProWrite's palette requester to lower the contrast of the screen colors, thereby reducing the interlace flicker.

Proceed to highlight blocks of text and then select your bit-mapped fonts. You may wish to start by selecting all of the text and then choosing the body face. With the Panasonic KX-P1124 printing at 180 dots per inch and a 50 percent reduction of the output, I found that font sizes between 20 and 30 pixels gave good results for the body text. Remember that the output will be reduced to increase the apparent resolution on paper, so choose fonts that are not based on single pixel line work.

Step 4 - Proceed to layout the page. Since ProWrite is set for reduction, only a small part of the page will be visible on the display even when an interlaced screen is used. I found that fine tuning of the line spacing, using the Line Height/Fixed option in the Format menu, was needed with most fonts. ProWrite will automatically adjust the page layout as changes are made. Be sure to pay attention to the ruler that ProWrite lets you place across the top of the screen. I found that the lack of a corresponding vertical ruler was a minor handicap.

and then copying the appropriate files to the FONTS directory. Just remember that you have to add both the .font file as well as the corresponding subdirectory that contains the actual font image data. If you have created a new font or a new font size for an existing font, you will also have to create or update the .font file. To do this simply run the FixFonts program after the font bit-map data files have been copied to the appropriate subdirectories in the fonts directory. FixFonts is located in the System drawer on the AmigaDOS 1.3 distribution disk. FixFonts automatically scans the FONTS directory and updates all of the .font files.

Counting fonts is another mystery that not everyone agrees on. All of the font sizes in a single subdirectory belong to single font face or family; however, the different sizes are counted as separate fonts. The Amiga's bit-map fonts can usually be displayed with a variety of characteristics such as italic or bold. Unless the fonts were designed with this appearance in the first place, these characteristics are not counted as additional fonts. On the other hand, structured fonts can be scaled to any size. Thus, a structured font is only counted once no matter

how many sizes you choose to make it. However, characteristics such as italic and bold are considered to be separate, countable, fonts when it comes to structured fonts.

•AC•

Step 5 - Print the document using ProWrite's Normal setting on the print requester. The Normal setting tells ProWrite to use bit-

mapped fonts for all of the output.

The advantage of this procedure is that you can easily get very high quality output using the Amiga's readily available bit-mapped fonts. This allows you to mix a wide variety of fonts, as well as graphics, on a single page. The disadvantage is that the procedure is slower than using the printer's built-in fonts. Since printing speed with this technique can be measured in minutes per page, you will most likely limit its application to short documents.

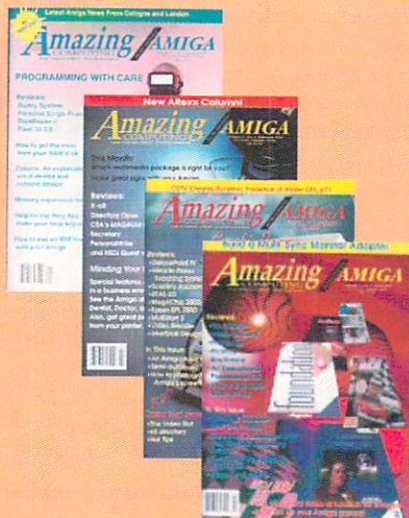
•AC•

Please Write to:
Morton Kevelson
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

No one covers the

With the premiere monthly Amiga magazine, *Amazing Computing*, the technical depth of AC's *TECH*, and the complete Amiga market insight of AC's *GUIDE*, you have no better choice for keeping you up to date on the rapidly changing Amiga marketplace.

Amazing Computing for the Commodore AMIGA



Amazing Computing specializes in providing its readers with a broad knowledge of Amiga computing. With articles on the latest trade shows, the latest released products, indepth how-to's, plus informative programming and hardware features, AC maintains a standard of delivering only the very best.

Whether through the controversial columns of *Roomers* or the always informative *Bug Bytes*, AC maintains the constant process of providing alternative views as well as help in making your Amiga do more for you. AC does more than any other Amiga publication to provide the latest information and the best news stories on what the Amiga will be doing next. When you want to know more and do more with your Amiga—AC is the one choice.

Amazing Computing provides its readers the following:

- In-depth reviews and tutorials
- Informative columns
- Latest announcements as soon as they are released
- Worldwide Amiga Trade Show coverage
- Programming tips and tutorials
- Hardware projects
- The latest in non-commercial software
- All in informative, but in an easy to understand format



AC's TECH For The Commodore Amiga

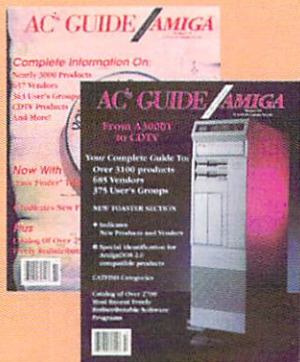
AC's *TECH* was created with the more experienced, or determined, Amiga user in mind. It is the perfect complement to *Amazing Computing* and AC's *GUIDE*. AC's *TECH* attempts to take the mystery out of intense programming and hardware development. The issues covered in AC's *TECH* are of interest to both the beginning programmer and the Amiga developer.

AC's *TECH* allows Amiga users to expand their knowledge and commit to larger projects while staying aware of the latest releases and other changes in the Amiga platform. This vital resource was the first disk-based Amiga technical resource available. It is, once again, the only such resource available and continues to improve with each issue.

AC's TECH offers these great benefits:

- The only disk-based Amiga technical magazine
- Hardware projects
- Software tutorials
- Interesting and insightful techniques and programs
- Full listings on disk
- Amiga beginner and developer topics

Amiga like Amazing



AC's GUIDE To The Commodore Amiga

AC's GUIDE is recognized as the world's best authority on Amiga products and services. Amiga Dealers swear by this volume as their bible for Amiga information. With complete listings of every software product, hardware product, service, vendor, and even user groups, AC's GUIDE is the one source for everything in the Amiga market.

AC's GUIDE also includes a directory of Freely Redistributable Software from the Fred Fish Collection and others. For Commodore executives, Amiga dealers, Amiga developers, and Amiga users everywhere, there is no better reference for the Commodore Amiga than AC's GUIDE to the Commodore Amiga.

What do you get with AC's GUIDE?

The best single resource for everything available in the Amiga market!

Subscriber Benefits

Every investment should contain some added value that makes your choice more interesting. An Amazing subscriber not only gets one of the best magazines available, but these additional perks as well!

Every Amazing publication has always been mailed in a protective cover or envelope.

This means the end to torn covers or mutilated issues. We want your AC investment to always remain a solid value.

Every AC Subscriber issue is mailed early.

Every AC is mailed one week before the copies are shipped to the newsstands by the distributors.

Toll-Free Access.

An 800 number for toll-free (from the U.S. and Canada) assistance on your subscription. Amazing handles all subscription questions at our corporate offices. This means that your concerns concern us and we take care of your problems FAST!

Money Back Guarantee.

If you find your Amazing subscription is not everything you need for a better Amiga, contact us for a hassle-free refund for any unmailed issues.

Now is your chance to enjoy the best savings ever available for these publications.

This Amazing special is only available for a limited time.

Use your MasterCard or Visa and call toll-free in the U.S. and Canada:

Call 1-800-345-3360

A PostScript Driver for a Text Editor

Without Using Preferences!

by Merrill Callaway

An increasing number of Amiga users are discovering the benefits of using a PostScript capable printer, particularly since the price of such a printer is now below \$2000. With PostScript at your disposal, you can print anything imaginable, except, that is, a simple text file from your favorite text editor! When you try to do this, you immediately realize that in one of their more inscrutable decisions, Commodore failed to include any sort of PostScript printer driver in the Preferences printer choices. To use a Preferences printer (your only choice on most text editors), you must select a Hewlett Packard LaserJet printer driver, and change the settings on your printer to LaserJet II emulation, a much less than satisfactory solution. If you are at all like me, you forget in which mode your printer is set, and attempt to print a file and blank pages start to spew out, or, worse, the printer writes garbage on your expensive laser paper. I soon tired of trying to keep track of two settings, and started thinking of a workaround. Obviously, the best solution is to get a PostScript driver into Preferences. Most of us aren't knowledgeable enough to write such a low level program as a device driver. I found a driver listed in *AC's Guide* that claims to

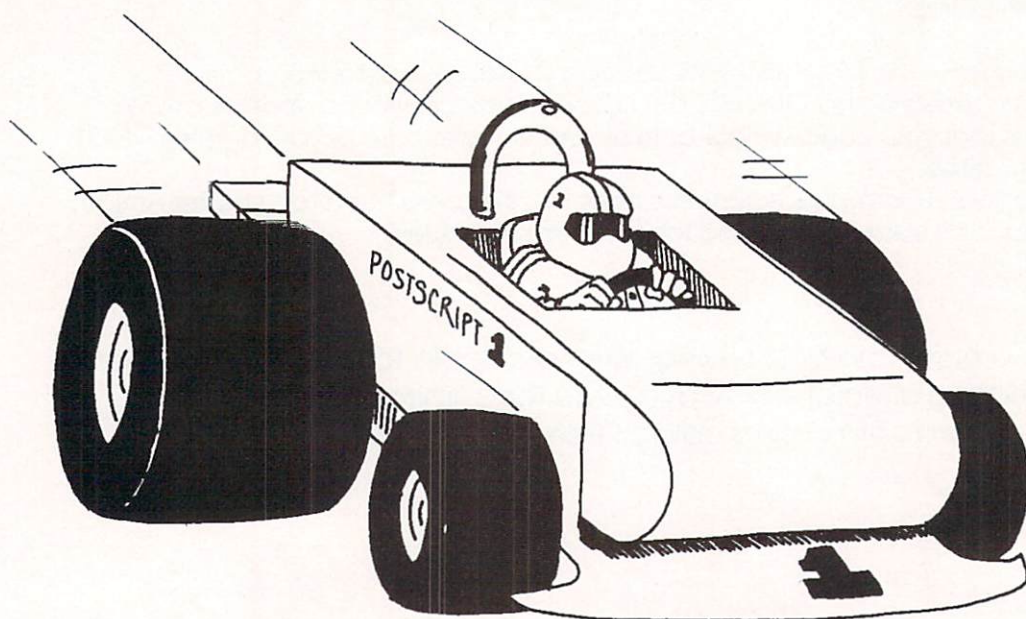
support PostScript, so I ordered it from its developer in Finland. I figured I'd have a bit of a wait, and I had plenty of work to do, so I began to think of anything "quick and dirty" I could do to solve my problem in the meantime. I wanted to print out program listings from my editor without resorting to switch flipping and other such kludges. "There ought to be a simpler way," I thought to myself.

A Final Decision

One of the reasons I bought a PostScript printer was that it prints using software instead of hardware to make the type faces and fonts. This means you can export your files to other platforms for printing. My final convincing occurred the day someone demonstrated to me that PostScript, after all, is an interpreted script language. This means that programs that control every aspect of the printer originate in a text file made in an editor as ASCII text files; in other words, you can read them. The printer may be controlled simply by copying a suitable PostScript text file to the Parallel (PAR:) device of your Amiga. Since I use AREXX a lot, and that is an interpreted, scripted language as well,

I thought that perhaps PostScript would be as much fun. I wasn't disappointed.

While I was playing around with PostScript programs in my editor, I soon came across the above mentioned problem. Here I was, making PostScript programs and having to print their listings, for Pete's sake, in LaserJet II mode! Most editors have the most rudimentary means of printing: they just send the file to the PRT: device, which contains your preferences printer choice. On the other hand, DTP programs and word processors usually have a PostScript driver on board, but



you generally can't access them from an editor, and their drivers don't work if you simply load them into Preferences. If your word processor has ARexx and so does your editor, then you can send the file to the word processor, and print it, but that can be time consuming to wait to start your word processor package up and then close it down each time you print. I also rejected the idea of giving up the handy programmer-oriented features of my editor to use my word processor and save in ASCII text format. I use *WordPerfect*, which doesn't support ARexx, but I started my experiment making a startup macro within WordPerfect and used ARexx to start WP from within my editor (Oxxi's *TurboText*). The WP macro loaded and printed a file in RAM with a certain name. In *TurboText*, I made the ARexx macro so that it saved its current document to that specific filename in RAM before it started WordPerfect. It worked, but the system overhead was not to my liking and I had to exit WordPerfect manually since it wouldn't allow a macro that shuts it down. WP macros are irksome in the extreme as they are only a clumsily implemented record of keystrokes and cannot be edited directly. While I was finishing this test, the answer suddenly flashed to me: make an ARexx macro to write PostScript commands directly to the PAR: device! Yes! Then I could use the considerable string handling power of ARexx to parse the lines of my document file and also make the PostScript commands and put together a PostScript program to send to the PostScript laser printer connected to my parallel port. PostScript is kind of clumsy when it comes to file and system manipulations but ARexx is not. It is powerful and easy to use. ARexx isn't so hot at formatting and page layout, but PostScript is, so together the two are dynamite! The following program and tutorial will guide you through the makings of a virtual PostScript line printer for your text editor.

Juggling Not Only Apples and Oranges

We will be juggling and combining, not just apples and oranges, but apples, oranges and bowling balls. I'll leave it to the reader to figure out which represents which in the following. Before we get into the nitty gritty of a program listing, it would be useful to explain a little bit about how PostScript works, and to explain about how ARexx deals with our multi-language situation. First PostScript: PostScript uses an interpreter, a program that takes instructions one at a time and executes them. This program isn't in your C directory or anywhere else in your Amiga. It resides inside your printer aboard a hardware chip called a ROM (Read Only Memory), usually in the form of an EPROM (Erasable Programmable ROM) so that the latest version of the PostScript language may be installed, or so that certain printer-specific parameters may be changed—by experts only! It waits for an instruction it recognizes and then executes it. One easy way to visualize how PostScript executes an instruction is to think of a RPN (Reverse Polish Notation) calculator such as the popular Hewlett Packard series. This is sometimes called postfix notation or a LIFO (last in first out) stack. This apparently is how the Post part of the PostScript name came about, and we've already shown how the Script part of the name came about. In postfix computing, the operand (the data) is specified (pushed on to the stack) before the operator. The operator then takes the data off the stack,

operates on it, and returns the result of the operation to the top of the stack. Confused? OK, think of your local cafeteria and the stacks of trays at the head of the line. They are on a spring-loaded device so that the uppermost tray is at a constant level and accessible to the customers. The last tray put on the stack by the dishwasher is the first one to go out and get used by a customer. That's exactly how to look at a software stack. The dishwasher represents the program putting objects (data) on the stack, and the customers are the operators taking trays off the stack and doing things with them. Sometimes a family of four comes in and needs four trays to eat on. Sometimes a single person comes in and needs only one tray. Operators in PostScript are the same way: some of them need several objects pushed on to the stack in a certain order, and some operators need only one object. In PostScript the things on the stack are called objects and they don't have to be numbers; they can be dictionaries of fonts, definitions of functions, just about anything, even (roast beef). This is how you would put a literal text string (roast beef) on the stack: by enclosing it in parentheses. All PostScript language objects may be represented by ordinary ASCII text and numbers, in other words all printable characters.

What Happens When I Run an ARexx Program?

Although you do not need to know all the ins and outs of what happens when you run any program on the Amiga, it certainly helps to have a basic understanding. ARexx is an interpreted language, too, and depends on a program running in the background which is, among other things, the ARexx interpreter, or the program that takes care of launching all ARexx programs by interpreting their coded instructions and then running each program as a separate task (really a DOS process) in the multi-tasking environment of your Amiga. The name of this background program is *rexmxast*. It is

also properly called the ARexx resident process. Without its presence, no ARexx programs will work. Once launched, *rexmxast* just sleeps, waiting until you need it. An ARexx program must always be launched, (or started, or run) as any other program must be run. You should keep your ARexx program files in a "Rexx" directory in your sys: device. In system 2.0 of the Amiga the directory is called "Rexxc". The *rexmxast* program searches first for your program in this "Rexx" or "Rexxc" directory.

ARexx has some powerful features that set it apart from other languages. It has the ability to control outside programs! It can control programs, which have "ARexx support," running as separate tasks within the Amiga multi-tasking environment. It can perform this remote control of other programs by means of the command interface, which is composed of two parts: the *rexmxast* resident process, and the implementation of the ARexx command interface in some outside application program running at the same time. Any Amiga program capable of communication with an ARexx program (receiving commands, sending replies) is called a host application, and is also said to provide an ARexx command interface. Any host application, once started, makes its presence known to the system by opening one, or more, of what is called a public message port through which it can receive its own internal commands from ARexx programs, and send

With PostScript at your disposal, you can print anything imaginable, except, that is, a simple text file from your favorite text editor!

MOVING?



SUBSCRIPTION PROBLEMS?

Please don't forget to let us know. If you are having a problem with your subscription or if you are planning to move, please write to:

Amazing Computing Subscription Questions
PiM Publications, Inc.
P.O. Box 869
Fall River, MA 02722

Please remember, we cannot mail your magazine if we do not know where you are.

Please allow four to six weeks for processing

back replies. This is exactly what is meant when you see the term "ARexx support" in application software advertising. The rexxmast resident process is a communications center for all of ARexx. It does more than just interpret and launch ARexx programs. It allocates memory, keeps track of libraries and global system resources, and in our case here, processes commands—which we will define later—

The resident process itself is therefore a host application, because it is able to receive ARexx commands.

through the command interface, sending them to an outside program to do things within that program. The resident process itself has a public message port called 'REXX'—public message ports are always case sensitive—through which it sends and receives commands and replies, respectively. The resident process implicitly determines the destination for any commands it processes through the command interface by maintaining a current host address (for convenience, it also maintains a previous host address). A host address is the same name as the public message port maintained by an outside program, and until your program tells rexxmast to change to another host address, commands are sent to the current host address. The default host address is 'REXX', so unless a program overrides this default in order to issue commands to some outside program (in which case it changes the

current host address), the resident process will send itself any commands it encounters, and attempt to execute them. The resident process itself is therefore a host application, because it is able to receive ARexx commands. When an outside program launches an ARexx program, the current address of that ARexx program is automatically made to be the host program's address. The host application may therefore send itself commands that execute its own internal commands, as well as issue commands to ARexx itself, or issue commands to the AmigaDOS system (by using an ADDRESS COMMAND 'some AmigaDOS command' instruction. This recursive or self-referential quality of ARexx is a little confusing at first, but it is worth your while to contemplate its ramifications, because it presents a very powerful control mechanism, not only for your Amiga operating system, but also for any software having an ARexx command interface. In our case here it acts as a virtual PostScript driver!

Remember Your Syntax

What exactly are commands? ARexx has the unusual feature that it reserves a whole syntactical class of program statements called commands which are actual ARexx executable statements, but which are not required to have any meaning within the ARexx language itself! What do we mean by a syntactical class? This means commands are recognized by the resident process according to their syntax: the overall arrangement or aspect of the command statement within the ARexx code statements. Commands are usually surrounded by quotes (punctuation is a part of syntax), if the commands are to be sent to some program outside the host program (assuming your ARexx program changes the address appropriately). If these commands are to be sent back to the host program as its own commands in a macro, then it is safe to leave off the quotes (but including them will not hurt). Also, the position in the ARexx program statement itself can determine if a statement is a command statement. Simply put, a command statement is any expression that rexxmast cannot identify and classify as one of the four other types of ARexx statements that do have meaning within ARexx itself: null clauses; label statements; assignment statements; and instruction statements. The resident process uses the unique and powerful command interface to send these "meaningless" commands to outside programs, through their public message ports, where they do have meaning, and where they will actually control that outside program exactly as if the commands had been issued internally in that program!

Our apples, oranges, and bowling balls therefore correspond to PostScript language objects, ARexx statements, and ARexx commands. The only one of these three that is not universal, is the internal command set of your editor, commands from which are included in the ARexx program launched from the editor. In the following, we look at a specific program to control the PostScript printer from TurboText, but from the context, you can easily change the code to match your favorite editor's ARexx command set. If your editor doesn't have ARexx support, then you can still do the printing, but you will need to launch the ARexx program from a shell after saving your file appropriately. One of the reasons I like TurboText so much is its full and easy to use ARexx interface, its intuitive and configurable user interface, and the superb manual. If you haven't acquired an editor, yet, by all means get this one! The program here could be done entirely in TurboText commands without resorting to saving the entire file to RAM: first, but to make this application more universal, I have minimized the use of the TurboText command set. Using ARexx directly also proved easier to implement than using only the internal TurboText commands. To make the following listing, type it into an ASCII editor (no word processor formats, please!) and save it in ASCII in your rexx directory under the name PStextprint.ttx, or something mnemonic, the definition of which I forget but I'll think of it in a minute.


```

/* PStextprint.ttx */
OPTIONS RESULTS /* we want to process Results sent by ARexx commands */

/* ARexx string variables=postscript commands and parameters */

font='/Courier findfont 10 scalefont setfont' /* courier 10pt type */
coordx=68 /* x coordinate in 1/72nds of an inch from lower left */
coordy=720 /* y coords in 1/72nds of an inch (called points) */

pscommand='moveto show' /* Ps for go to point, write text */
pshow='showpage' /* prints the page when we're done */

/* TurboText specific commands. If you use a different editor, */
/* change these to do the equivalent in your editor */

getfilepath /* store the path to our current open file */
doc=result /* in ARexx variable "doc" */
conv2spaces /* convert tabs to spaces for proper format */
moveSOF /* literal strings in Ps: */
findchange all find '\ ' change '\\' /* unbalanced parentheses */
moveSOF /* and backslashes are */
findchange all find ')' change '\)' /* specials characters in Ps */
moveSOF /* these commands change */
findchange all find '(' change '\(' /* the text to print them OK */
savefiles 'ram:text' /* save file under ram:text name */
openfile doc /* reopen your document under its org. name */

/* ARexx processes our file into PostScript file to send to printer */

if open('output','par:','w') then do /*open PAR: for output */
  call writeln('output',font) /*find the Ps font */
if open('input','ram:text','read') then do
  do while -eof('input')

    do count=1 to 66 /*line count 66 */
      line='(readln('input'))'
      call writeln('output',line)
      call writeln('output',coordx coordy pscommand)
      coordy=coordy-10
    end

    call writeln('output',pshow) /* print page */
    coordy=720 /* start new page at top */
  end /* do */

end /* input */
end /* output */
exit 0

```

That's the whole thing! All you have to do is launch this ARexx program from TurboText and it will print the file you are in to the PostScript printer attached to the parallel port. If you study the way ARexx puts the program together and keep in mind we are using a postfix stack, you will see the simplicity of the way it works. First ARexx sends a prologue to the PostScript interpreter, telling it to put /

Courier (a '/' means a literal string and not an operator) on the stack. Then the operator findfont finds the Courier font in the dictionary inside the printer's memory of resident fonts. Next, a number 10 is pushed on the stack, and a scalefont operator takes the two operands, the font and the scale number and scales the entire font. Remember, the result of findfont was shoved on the stack and is underneath the number 10. Finally, the operator setfont sets up the font dictionary using the information from the stack (the scaled font) for our program to use. ARexx now grabs a line, puts ()'s around it, so that PostScript will know it's a literal string, and pushes it on to the stack, with the font dictionary of 10pt Courier underneath. On top of this, ARexx puts first the x coordinate in 1/72nds of an inch: 68, followed by the y coordinate: 720. This is the upper right hand of a letter size paper with a top margin of one inch and a left margin of almost one inch. Feel free to change

We take a **byte** out of the price!



ONE BYTE

P.O. Box 468
Quaker Hill, CT 06375
(203) 443-4623

YOUR ONE-STOP AMIGA STORE

**Authorized dealer for
Commodore-Amiga Computers,
Great Valley Products (GVP),
Authorized Commodore-Amiga Service and Repair.
Authorized Amiga Graphics Dealer.**

AMIGA IS A REGISTERED TRADEMARK OF COMMODORE-AMIGA, INC.

Circle 145 on Reader Service card.

these to your satisfaction. Finally the string 'moveto show' is appended to our PostScript program line, and these two commands are pushed in their order on to the stack. Moveto moves to the current point on the page determined by the two underlying x,y coordinates on the stack. Show commits to print the text underneath it on the stack at the current point on the page. Notice how each operator in turn uses up the stack

Our apples, oranges, and bowling balls therefore correspond to PostScript language objects, ARexx statements, and ARexx commands.

entries much like the cafeteria customers use up their trays, or a Hewlett Packard calculator uses up the numbers you enter when you press the operator keys. The objects underneath keep on popping up each in their turn. Next, we let ARexx handle the assignment of the y coordinate to a point 10pts less than before to simulate what we refer to as a line feed/carriage return, with x held constant because it is the left margin, essentially. Then our program loops back and does it again until we've printed 66 lines. Then we let ARexx write the command showpage to PAR: which, when it arrives at your printer, actually makes the printer print the page in real life. We reset all the variables to their new page settings and do it all again, until we hit the end of file. Without all the housekeeping handled by ARexx, a PostScript program to print the string (roast beast) would look like this:



Bigfoot 200 Watt A-500 Power Supply	\$129.95
Universal Joystick/Mouse Switch	\$ 29.95
Slingshot A-2000 Slot For The A-500	\$ 39.95
Eureka 512K A-501 Clone	\$ 74.95
Eureka 4MB Ram Expansion	\$ 89.95
Eureka Swifty 300 D.P.I. Mouse	\$ 34.95
Eureka Midi (1 In, 2 Out, 2 Thru)	\$ 39.95

Micro R. & D. is pleased to be the North American representative for

Omni-Eureka Electronics

corporation. Omni-Eureka's product line represents an exceptional value for the Amiga user, low in cost, high in quality, these products are warranted by Micro R. & D.

See your dealer!



(308) 745-1243 (308) 745-1246 FAX
P.O. Box 130, Loup City, NE 68853

Circle 118 on Reader Service card.

```
/Courier findfont 10 scalefont setfont
(roast beast)
68 720 moveto show
showpage
```

We could copy this file to the PAR: device and it would print. We've just done the housekeeping and loop counting and editor file controlling in ARexx because its easier to use. The structure of the PostScript part of our ARexx program is just like that of the above program, however, performed over and over.

I changed my definition file in TurboText to the following line in the definitions wired to the menu and keys under the MENU section:

```
ITEM "Print" "P" ExecARexxMacro sys:rexxc/PStextprint.ttx
```

Now every time I select the menu or press right-Amiga-[P], my file is printed, because the former command to PrintFile has been replace by an ExecARexxMacro command referencing my program file. See what I mean about the power of TurboText? I can hot wire an ARexx macro to any key to do all sorts of things (even sorts).

If you use another editor with ARexx support, you will want to change the above program to use the commands peculiar to your brand of editor. All else will remain the same. You will want to do the following in your editor, either within the ARexx macro or manually:

1. Remember the path to your file and store it in ARexx variable "doc".
2. Convert all tab characters to spaces. Otherwise, format can suffer
3. Take care of the special characters in PostScript: (,), and \ to make them print as literals. Put the PostScript escape character \ in front of all parentheses and backslashes to make them into literals. The fastest

way to do this is in your editor with a find and replace operator, although it is possible in ARexx to find and replace any string. Order is important. Change the escape character first; then the parentheses. Balanced parentheses are not a problem, but you may not know beforehand whether they are balanced or not, so it is safest to change all parentheses to a parenthesis preceded by a backslash. Don't forget to move to the start of file (SOF) before each find and replace operation.

4. Save current file as 'RAM:text'
5. Re-open the file by its original file name.

Keeping Tabs on Tabs

A couple of Gotchas may happen here. If you haven't saved the file you were working on lately, it may be that you print your latest version and then an older one appears after printing. You may put in a command in the editor command section of the ARexx program to save the file before printing. In the case of TurboText, you would enter a command:

SaveFile

before the other commands. You may also find a Gotcha here. If you were working on a new version of a file and weren't sure of it, and you wanted to study a printout before you saved it...well you see what I mean. You may use RAM:text as a backup if you need it, in addition to any automatic backups you may have programmed into your editor. The RAM:text file will have had its tabs converted to spaces; and any parentheses and backslashes preceded by a backslash, however. It is up to you to keep tabs on which file you want, in a manner of speaking.

You may have gathered that my little program is only the beginning. You can of course make custom logos or drawings appear as a background to your text without resorting to a DTP program or your word processor. It is simply a matter of writing the PostScript commands and saving them to a file filename. Then in your ARexx routine, you just put in the following:

```
ADDRESS COMMAND 'copy [filename] to PAR:'
```

Then your ARexx program will copy the program to the printer through the parallel port. In this way you can unlock many creative possibilities. For further reading, I recommend the Addison Wesley series which includes *PostScript Language Reference Manual* and the *PostScript Language Tutorial and Cookbook*. Remember that PostScript is a universal language that allows you to take your files to any platform that supports PostScript. So next time you are in your bookstore, browse over to the section for other computers besides the Amiga and feel right at home, knowing that everything in these PostScript manuals applies to your Amiga. Happy hacking, and enjoy the possibilities that the PostScript language coupled with ARexx offers. Remember, the other guys don't have ARexx!

•AC•

Please Write to:
Merrill Callaway
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140



October 1985.

We got into the Amiga®

(We've been your Amiga® Experts ever since!)

Come to the Paragon dealer nearest you for the latest Commodore Amiga® products, super selection, trade-in value, and customer satisfaction!

We received our first Amiga® when it was introduced in October 1985 and have been into Amiga® ever since! We sell them, repair them, play and work with them...even made this ad with one! You might say Amiga® has gotten into us...in a big way! Paragon is strictly Amiga® and Commodore®! Get the newest products on the market, a huge selection, and place advance orders on the hottest items to come! You'll love the way we love Amiga®!

Paragon offers new and like-new Commodore® Amiga® computers and all the popular drives, printers, modems, and equipment you're looking for!

And when you are ready to upgrade, we can help. We'll take your present Commodore® system, working or not, *IN TRADE* toward a more powerful Amiga® system.

We'll do any Amiga® 500 repair for just \$79.95.

Our Commodore Amiga® Authorized Service is exactly what you've been looking for! Bring your equipment in for fast, flat-rate CPU repair by our experienced, highly qualified technicians! We guarantee CPU repairs in just 24 hours! All repairs are warranted for six months**.

Complete Customer Satisfaction**

You are assured of complete satisfaction *in writing* from Paragon Computers. From lowest price before and 30 days after the sale, to expert repair service, Paragon strives to provide you with **"Simply Our Best!"**™. We want you to be our next satisfied customer!

**CALL
1-800
648-2887
FOR THE
PARAGON
DEALER
NEAREST
YOU!**

**PREFERRED MEMBER
CREDIT CARD**



APPLY TODAY!

PARAGON
C O M P U T E R S

PARAGON CORPORATE OFFICE
1045 Garden of the Gods Road
Colorado Springs, CO 80907

- VISA
- MASTERCARD
- DISCOVER

PARAGON WARRANTIES... BEFORE YOU BUY: If you see a lower price offered by any local stocking merchant (verifiable written proof required) on the same computer specific software title that Paragon sells, we will beat that price! AFTER YOU BUY: If, within 30 days after your purchase, you find the same brand name and model number advertised or available for sale for less (verifiable written proof required), by any local stocking merchant, Paragon will gladly refund whatever amount is needed to make your cost lower than that available price. To make your claim, bring your written proof, along with your Paragon receipt, to the Paragon store manager. Qualified claims will be processed for mailing. THIS PRICE GUARANTEE does not apply to mail orders, manufacturers' rebates, dealers going out-of-business sales, merchandise offered as floor samples, one-of-a-kind or limited quantities, nor does it apply when the purchase involves premiums or trade-ins, or when the purchase price includes special items, such as carrying cases, installation or delivery charges, nor to any offers where merchandise is not readily available for immediate delivery. * LIMITED 60 DAY SERVICE WARRANTY *** Paragon's obligation to the original service customer. We guarantee our materials will be free of defects for a period of sixty days from the date of your original service. Additionally, we will provide free service for 6 months from the date of original service. The customer's only obligation will be the cost of materials used. If you discover a defect covered by this warranty, we agree to correct it at our expense, using new or remanufactured components at our sole option. WHAT YOU

MUST DO: To obtain free repairs under the warranty, you MUST deliver the product along with the original sales invoice. You must also pay for any costs associated with the delivery to and from the service center. WHAT IS NOT COVERED BY THE WARRANTY: This warranty does not cover any damage or malfunction resulting from improper handling, accident, abuse, misuse, failure of electrical power, use with or damage to other products, damage while in transit for repairs, repairs attempted by any unauthorized person or agency, or any other reason not due to defects in materials or workmanship. WHAT PARAGON WILL NOT BE RESPONSIBLE FOR: We will not be liable to you or anyone else for any liability, loss or damage for interruption of service, loss of business, data or anticipatory profits, or consequential, incidental or punitive damages resulting from the use (or operation) of any product serviced by us. OUR LEGAL DISCLAIMERS: THE ABOVE WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. PARAGON'S LIABILITY IS LIMITED SOLELY TO THE REPAIR OF THE DEFECTIVE PRODUCT. FINALLY, WE MUST TELL YOU THAT: Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

The Video Slot

by Frank McMahon

Putting your Amiga on auto-pilot is fairly effortless because of the vast availability of presentation software. *Showmaker*, *Elan Performer*, *Deluxe Video*, *AmigaVision* and many more programs make it easy to piece together graphics and animations in any of the Amiga's modes. This way graphics can be edited, timed, and then the final presentation dumped directly to tape. But what about 24-bit? If you are working on graphics for your videos using IFF24 images chances are you are editing them together in sequence using your editor. There is an easier way. This month we'll look at real-time 24-bit sequencing. Not only can the results be transferred to video, but the same principals can be used to construct games, slideshows, presentations, and programs, giving the Amiga an interactive display with hi-res and millions of colors.

DCTV is one obvious answer. Because DCTV uses special display hardware, the Amiga thinks it is displaying a standard hi-res screen. In actuality it is, however it is made up of control information which constructs a video resolution image on a separate composite monitor. The standard hi-res format makes it compatible with nearly any program which can display hi-res screens. Will wipes work? Possibly—as long as they don't corrupt the control information, meaning that simple wipes which cross the screen will usually work. What won't work is anything that moves the hi-res screen "off" or "on," such as Pro Video Post's DVE effects. Experimentation with various programs is the key; you'll find most programs that feature basic wipes work with DCTV just fine. Creating 3-D images/title screens/animations in 24-bit, converting then to DCTV's display format, loading them into a presentation program, and setting up a timed sequence can save a lot of editing time and allows more flexibility. Some programs even allow graphics to be timed with Amiga/MIDI-generated music so you can lay both graphics and music down on videotape at once.

A series of DCTV images and titles can easily be constructed but the unit itself is not considered broadcast quality. A true 24-bit framebuffer may be in order. About a year ago, I created a 24-bit slide show using the Mimetics Framebuffer. If you own one of these boards, you may be using the digitizing/display software while being unaware that there are numerous CLI commands for displaying, saving, TBC correcting, and even freezing. For a list of commands, from CLI type "framebuffer?" I created a script which executed a host of display commands showing RGB files from RAM. The only problem is that the hardware dumped the last image out of the buffer before it loaded a new one—not exactly a seamless presentation. However, I have expanded upon that method over the past year with other devices getting varying results.

For example, the Firecracker 24 board from Impulse, Inc. is a true 24-bit display card which coupled with a genlock can output directly to tape. Although most users use the included paint program *Light24* to display images, like the Mimetics board, the Firecracker also has a host of CLI commands which can load graphics. To sequence them, I

like to use *CanDo* from INOVatronics. CanDo allows several features which makes 24-bit sequencing a breeze. Suppose you wanted to make an interactive presentation for, say, a convention where visitors simply click on-screen buttons to display 24-bit images on your RGB monitor. CanDo features a script command called DOS which in turn executes a CLI command. Simply create a button on-screen and when the "Editing a Button" screen comes up, choose "Release" which takes you into the script editor. Just type
DOS
"DH0:SHOWIFF24
DH0:Images/
TitleScreen.IFF24,"
for example, making sure the CLI command is in quotes (The Firecracker's CLI commands must be



Interactive 24-bit program created using CanDo and the Firecracker 24 board.

copied from the disk that came with the board to your hard drive.) Whenever the on-screen button is selected, the Firecracker board will turn on and load the Titlescreen picture from the Images drawer on the hard drive. Since the Firecracker can overlay 8-bit Amiga graphics on its 24-bit screen, you can compose a "control panel" with CanDo, or a paint program, with various mouse options. The panel will be "keyed" over your images as long as you don't use color zero, as the images will show though the background color. Another trick is to create buttons using color zero, rendering them invisible. You then can create a control panel in 24-bit on your images, keeping the correct icons under the "invisible" buttons. I've used this method for several different projects.

Figure 1 shows a screen from a program I wrote to display my art work off hard drive. The user clicks on icons to find different image topics and then clicks on a small representation of a picture to view full screen. The panel is keyed over using the Firecracker's genlock mode, and invisible buttons are placed over the small pictures. Hitting a small 24-bit picture brings up the actual full screen image.

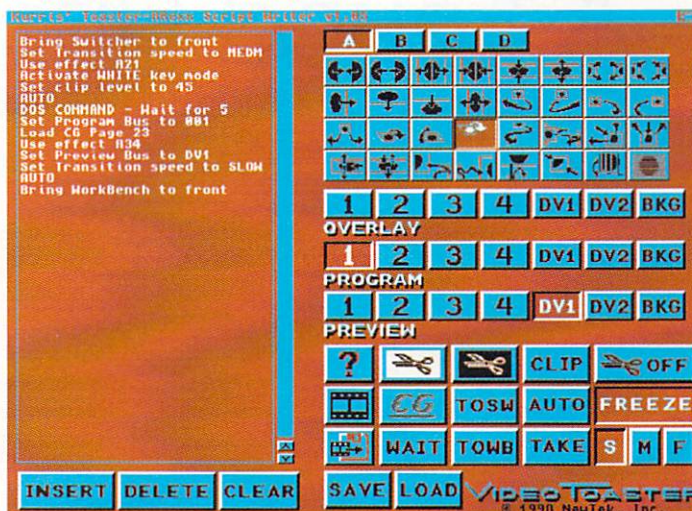
For laying a set of screens on videotape, you would not want a control panel, so keyboard commands could be used in CanDo. Just choose "Edit" and then select the "KeyInput Object System" Icon from the main panel; it's a picture of a key with the letter "A" on it. Choose edit again, and then where it says "Key Code" type in a keyboard command—found on page A4-1/A4-2 in the CanDo manual—leaving "Qualifier" on "None." Again select "Released" and type in DOS followed by the Firecracker load command in quotes. Every time that key is released, the graphic will load and display on the board. Making use of the "Duplicate" commands for icons and keyboard objects speeds up sequence creation.

I mentioned that this example is simple because there are more Firecracker commands that can be used. AON and AOFF turns the Amiga screen on and off. BON and BOFF turns the Firecracker board on and off. Commands such as -w384 forces the board to use lo-res overscan for images. This may be preferred since lo-res images load much faster. Other commands include SHOWFC and SHOWRGB to display different types of 24-bit files. The commands follow this order: SHOWIFF24 (options) <filename>. One advantage is 32-color or HAM images can be mixed in the same sequence with 24-bit images in real-time. Although the buffer is not dumped during loading, you will see the picture load, giving a top to bottom wipe which can be reduced using identical backgrounds (for titles) and sped up by using lo-res images from RAM. A fast processor and speedy hard drive are also essential. Anticipated CLI commands from Impulse to select loading into Buffer A or B and switching between the two will rectify the situation. Not limited to the Firecracker board, most 24-bit framebuffers have CLI commands which can be sequenced for real-time title sequences dumped to video with no editing. While I've used CanDo for this example, a script of various CLI load commands can be created with something as simple as a text editor. ARexx users can utilize such programs as *Art Department Professional* to create script sequences displaying to one of the framebuffers that the program currently supports. Even though it is primarily used as a single frame recorder, the *Personal SFC* from Nucleus Electronics supports almost every framebuffer and allows precise timing and duration of every image. It could be used to create lengthy image sequences for video work.

What if you own a Video Toaster? Well sequencing 24-bit images is probably the easiest with this board! I have been using a program called TRexx from Kludge Code Software. Keith Williams uses the power of ARexx to produce a program as graceful and effective as the Toaster software itself. TRexx allows setting up a chain of events by simply clicking on icons.

Recently at our cable station, we have been developing a new children's show called "Youth Media." I designed the anchor desk set

using *Pixel 3D* and the Toaster's *Lightwave 3D*. I rendered it from several different angles and saved all the individual frames to hard disk. Since I needed to give a copy of all the frames to the local high school—the woodworking teacher is constructing the set from the Lightwave images—I simply set up a script to dissolve from one frame to the next with TRexx. The whole process took about three minutes. The end presentation was dumped directly to tape with no editing, with the dissolves simulating different fading camera angles. Again this is a very basic example. TRexx allows setting up switcher effects, freeze frames, keying, loading/saving frames, and even displaying a series of



Toaster effect sequencer TRexx from Kludge Code Software.

Character Generator pages. Effects can be slow, medium, or fast and there is even a wait command, in seconds, that can be set, so a delay can be introduced before the next action takes place. A User Command allows future ARexx Toaster commands. Everytime you click on an icon, the script generates another line in plain English which can easily be edited (inserted, moved, deleted, cleared). After a script is complete, you save it to your Toaster directory. Executing the script is then a matter of clicking on the icon attached to the script from Workbench. One thing to mention is that the program requires ARexx, which is included with version 2.0 and higher of Workbench.

Every Toaster user should own this program! Even if you don't think you'll need it, as soon as you start using it, you will begin to think of applications for it. It surely saves editing time, and of all the avenues discussed in this article, this is the easiest method of dumping a 24-bit presentation directly to video tape in real-time—complete with snazzy wipes. The best part about this program is that the original version, shown in Figure 2, is public domain and can be downloaded from most major BBS systems. Some Amiga dealers may have a copy on-hand as well. I have yet to try the newest version, now available commercially, but hope to feature it in a future column.

The techniques presented here can be applied over a vast amount of Amiga hardware and software. I hope these ideas will produce others, accomplishing the main mission: real-time 24-bit image sequencing. Although it takes a bit more planning in the video studio, it results in much more flexibility while saving editing time. Down the road, interactive 24-bit presentations, slideshows, games, and programs will be the norm as well. Fortunately for us, the Amiga's architecture allows it today.

•AC•

Please Write to:
Frank McMahon
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

DELTAWARE PRODUCTS'

A-Sound Elite

by Phil Saunders

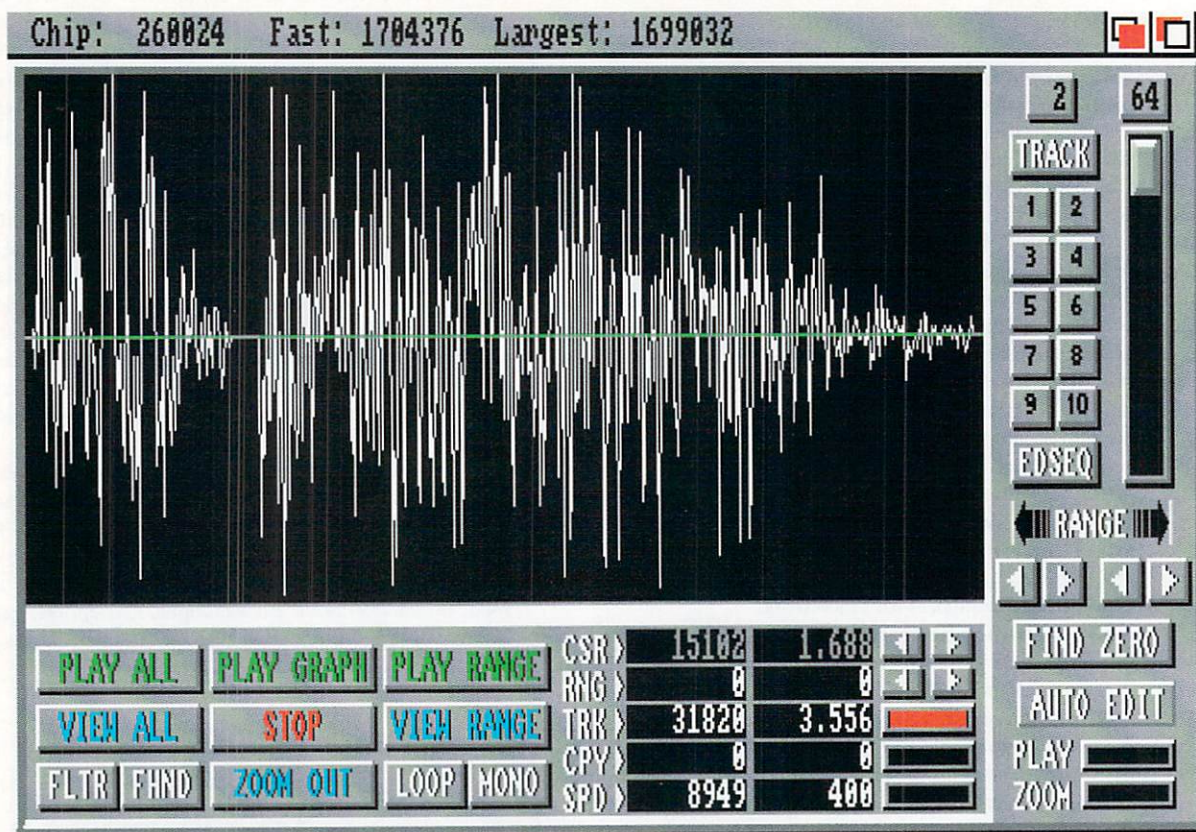
A-Sound Elite is yet another sample editing program that works with parallel port audio digitizers. It offers a host of special effects and editing features in an easy-to-use package, including several features I haven't seen in other digitizing software. For most users, the question will be whether A-Sound has enough new features to make replacing their current sound editing software worthwhile. In this review, I'll outline A-Sound's features and try to point out its significant strengths and weaknesses compared with other digitizing software.

A-Sound's 32 tracks make it easy to cut and paste parts of different samples and also allow mixing samples together. A-Sound displays a sample graphically, along with sample information, and play and view buttons. A-Sound can play a whole sample, the portion visible on the screen, or a highlighted range, either with or without looping. It also has the ability to easily zoom in or out to view a sample in greater or lesser detail. A-Sound's numeric display shows cursor, range, length, and copy buffer information in both number of samples

and in seconds, allowing precise editing. All sample editors allow selection of a range using the mouse, but A-Sound also lets you adjust the start and end points by clicking on range adjust arrows, making it easy to precisely tailor a range to eliminate dead space at the beginning and end. The parts of the sample not included in the range can be eliminated by using the Keep command. This is a good example of the attention to detail in A-Sound that makes the program easy to use. Other editors require you to select the dead space at the beginning of the sample, delete it, and then repeat the process at the end of the sample. A-Sound allows you to complete the operation in one step. A-Sound's programmers are to be commended for considering how people use sound-editing programs and anticipating most of their needs.

The sampling section is the first stage of any digitizing program. A-Sound supports stereo sampling and sampling rates up to 100 KHz, though an accelerated Amiga is required for the highest sampling rates. A-Sound turns off the video display and multi-tasking when sampling in order to achieve highest sample quality. It offers the standard monitoring and sampling options, and also allows direct-to-disk sampling—disk samples are mono only and cannot be edited from disk. A-Sound supports only parallel port audio digitizers and does not have an "auto-sample" feature

A-Sound is powerful, easy to use, and fully configurable.



that starts sampling when the level passes a certain threshold. It also lacks the ability to automatically correct samples made with an improperly biased digitizer (a feature found in *AudioMaster*), though A-Sound's DC Offset command can correct samples after they're made. All in all, the sampling commands will get the job done, but lack some advanced features found in other programs.

Editing and effects are the heart of A-Sound. A-Sound supports Cut, Copy, and Paste as well as commands to Delete, Zero, and Extend samples. It supports freehand drawing of samples. Setting loop points that don't click or pop is one of the best uses of sample editing software. A-Sound offers several approaches to the problem. It has a "Find Zero" button, which seeks loop points located on a zero crossing. This is ideal for clickless loops. It also has a Crossfade feature which mixes the beginning and end of the looped section together to create a clickless loop. A-Sound doesn't allow adjusting loop points while the sample is playing, a useful feature found in some other programs.

A-Sound includes a number of special effects. It offers the usual commands for changing sample playback speed and also supports resampling, which digitally converts a sample so that it plays at a different speed. Resampling is essential for creating the highest quality IFF instruments. A-Sound offers low and high pass filters to remove excess high and low frequencies from the sample. The filter frequency cutoff is not adjustable. The DC offset command will correct samples made by an improperly biased digitizer, but also has another application. If you load a Macintosh 8-bit sample, you can use DC Offset (Wrap) with a value of 127 to convert it to an Amiga format sound. Remember to delete the first 128 bytes, which contain Macintosh header information. Some of A-Sound's effects are ideal for enhancing musical instrument samples, such as Doubling, Echo, and Reverb. Others seem intended for voice recordings, like Disguise, which digitally alters a voice. The wide range of effects should suit most user's needs.

A-Sound also offers a feature particularly well suited to creating multi-octave IFF instru-

ments. Due to the structure of the IFF format, each octave of a multi-octave sample must be twice as big as the previous one and share the same loop points. Most sample editors create the additional octaves from a single sample. A-Sound can do that, but it is also able to combine several different samples into one multi-octave sample. A-Sound will automatically extend or truncate the lengths of each sample so that they conform to the IFF standard. This is an extremely clever feature that I haven't seen in other sample editors. Since there is only one set of loop points for all the octaves, this kind of multi-octave sample is best suited for sounds that don't loop, like drums. A-Sound makes it

change screen colors, and control other options. It also has a full ARexx port that can control virtually every aspect of the program. I don't have ARexx, so I didn't test A-Sound's implementation, but it looks very comprehensive. A-Sound also has an event log, which can be directed to any valid Amiga device. It is amusing to hear the Amiga announcing every command you give it when the event log is directed to the SPEAK: device. It would probably be possible to use A-Sound's ARexx implementation to make the program act as a scientific data acquisition tool.

A-Sound is a powerful, easy to use program. It doesn't support all audio digitizers and doesn't allow editing while samples are playing, but otherwise offers a full range of editing options and special effects. It has some special features, such as 16-bit sample editing and multi-octave IFF samples, that aren't commonly found in Amiga sample editors. If you're still using the software that came with your audio digitizer, A-Sound would probably be a substantial improvement. If you're already using

an editor like *Audiomaster III* or *Audition 4*, I wouldn't recommend changing unless you need some of A-Sound's special features. The 150-page manual is quite detailed; my only complaint is that some of the sub-headings should be printed in bold type to make it easy to find specific commands. A-Sound runs under both AmigaDOS 1.3 and 2.0 and is not copy-protected.

•AC•

A-Sound Elite
Price: \$129.95
Deltaware Products
3148 Kingston Rd., Ste. 202
Box 395
Toronto, Ontario, Canada
M1M 1P4
(416) 431-2047
Inquiry #200

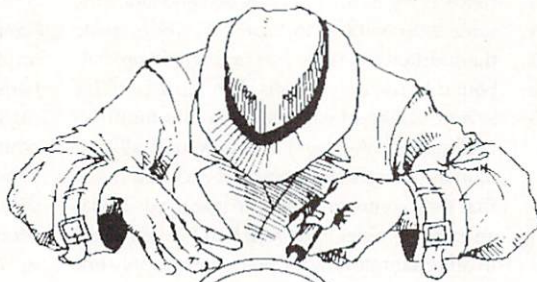
Please Write to:
Phil Saunders
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

A-Sound includes a number of special effects. It offers the usual commands for changing sample playback speed and also supports resampling, which digitally converts a sample so that it plays at a different speed.

easy to assemble custom-sampled drum kits.

A-Sound offers one or two other interesting features. It can load and playback 16-bit sound samples using a companding technique to achieve roughly 12-bit playback quality. While A-Sound allows editing of 16-bit sounds, none of the special effects are available. Deltaware Products reports that A-Sound will be updated to support other Amiga 16-bit sound formats when 16-bit digitizing hardware becomes available for the Amiga. A-Sound already loads and saves in several different formats, including IFF, Sonix, raw data, 16-bit IFF, and self-playing mono and stereo files. The self-playing files can be run from the CLI or by clicking on the icon A-Sound creates. A-Sound also allows creation of sequenced loops, which repeat portions of a single sample in varying order. Since sequenced loops add the loop control information to the original sample, they create samples that play for a long time without using much memory.

In addition to being easy to use, A-Sound is extremely configurable. It allows the user to disable warning prompts and the undo buffer,



ROOMERS

by The Bandito

[These statements and projections presented in "Roomers" are rumors in the purest sense. The bits of information are gathered by a third-party source from whispers inside the industry. At press time, these rumors remain unconfirmed and are printed for entertainment value only. Accordingly, the staff and associates of Amazing Computing cannot be held responsible for the reports made in this column.]

The New Enemy

Atari is dead, for all practical purposes. At least as a competitor for Commodore. The ST has effectively disappeared in this country and is working on its disappearance in Europe. So that leaves Commodore wide open as the only home computer vendor, right? Wrong.

Of course, there's several PC clone companies trying to be home computer vendors, companies like Tandy. But no single one of them has a very large market share. And when Tandy tried to create a computer especially for the home market, it flopped big time. IBM is trying hard with the PS/1 line, and they're still pushing. But they haven't made huge sales, either. So who's the new threat to Commodore, the real challenger for the home computer market?

Apple.

They used to be the big player in the home market with the Apple II line, which was outsold only by the Commodore 64. Apple tried to continue the success of the line with the Apple IIGS, but that feeble attempt was blown away by the Amiga. Apple also lost their traditional stronghold in the schools to an onslaught of PC clones

(IBM and Tandy, mostly). But now Apple is striking back with a new line of Macintoshes that are finally priced a little less than a king's ransom. Apple has been gaining market share again in the schools with the Mac LC. They've authorized some superstores to sell their low-cost Macs. And now they're rolling out a full-scale assault on the home market.

The Bandito's worm inside Apple has bitten into their marketing plans for this year. There will be several models of Macintosh designed for the consumer market; they are expected to be on the shelves for this Christmas. Details are hazy, but look for a 68000-based model and a 68020-based model, both with CD-ROM drives. They'll use a TV set or a monitor, sport the standard Mac interface, and perhaps 1MB of RAM. No word yet on expandability; the Bandito guesses that Apple won't build it in for cost reasons, but third-party companies will be able to add expansion devices. Pricing? Not set yet, but under \$1000 for the lower-priced model is a good guess. Distribution will be through every outlet Apple can dig up, probably mostly audio/video stores and department stores.

These new machines will be aimed straight at CDTV and CD-I, and, by extension, the A500. MPC is so expensive that it's hard to see why anyone would want one; you have to spend about \$3000 to get one that works at all well. But these new Macs will be right in the CDTV/CD-I price range, and that spells trouble for Commodore. You see, what usually sets computers apart is the software that's available for them. But with CD-ROM software, most of the developers are trying to make the

software available for all platforms in order to pay back their developments costs. So the Bandito expects pretty much the same software to be available for both CDTV and these new Mac CD-ROM machines (CD-I is so difficult and expensive to develop for, that it probably won't get many titles). So you won't be able to use CD-ROM software to differentiate the machines. Pricing will be reasonably equal (though Commodore will doubtless try to reduce the price on CDTV as much as possible in response; perhaps as low as \$499). So how will the products be differentiated? Marketing savvy—and we all know where that puts Commodore in the competition.

But there is a ray of hope for CDTV. Commodore can doubtless price it far lower than Apple or Philips can hope to go. The Bandito would like to see Commodore get aggressive and shoot for a \$499 list price as soon as possible. Meantime, concentrate on marketing CDTV as a complete computer solution. Focus attention on the expansion capabilities, especially as regards education. Don't forget video, too; that add-in genlock could be a crucial selling point. It'd be nice if Commodore or somebody could come out with an easy to use CDTV-based video editing system. Now there's something consumers could get into. So the Amiga's (and CDTV's) strength in video could be leveraged into some sales potential. But only if Commodore gets on the ball right away.

Oh yes, here's another idea: build DCTV right into A500's the way it'll be built into CDTV. More colors are always better, sez the Bandito. And start selling the A500 Plus in the U.S. Why should the Brits and the Germans be the only ones with Workbench 2.0 in their A500's?

Can you believe your eyes?
Video Calibration Set

41 IFF test patterns on disk for measurement, diagnosis, and calibration of Amiga RGB monitors, video monitors*, videocameras, and VCRs. Tune your monitors and televisions for optimum performance.

- Turns an Amiga into video test equipment.
- Test images can be loaded into paint programs or displayed with the included test software.
- 6 color test patterns.
- 6 contrast and brightness test patterns.
- Tests for convergence, phosphor burn, interlace flicker, amplifier linearity.
- Video camera test charts.



SMPT color bars
plus 40 others.

\$49.95

* Video tests require use of genlock or encoder to convert Amiga RGB output to an NTSC signal.

\$10 off w/ad.

VIDIA™

Vidia • P.O. Box 1180 • Manhattan Beach, CA 90266

Circle 111 on Reader Service card.

More Enemies on the Way

The Bandito has also heard some scuttlebutt about an Apple/Motorola/Sony collaboration that will produce handheld CD-ROM player with a color LCD screen, 24-bit graphics and CD audio for less than \$1000. The target introduction date right now is Christmas 1993. These wonder units will be networkable, too. Imagine the games you could play; they'd be sort of like a super Lynx. The big holdup is getting the manufacturing costs down so they could sell this thing for such a low price.

Competition is coming at the low end of the market, too. Sega's Mega CD box will be shipping this Christmas, and a number of major software developers have announced support for it (Sierra, for instance, will be putting all their adventure games on Mega CD). This goodie will retail for \$399, or perhaps even less, and make a Sega Genesis into a full-fledged CD-ROM game machine. Not as good as CDTV, but cheaper. And with some serious marketing support from Sega, which is feeling its oats now that they've gone and beat up the Super Nintendo for market share. (In case you hadn't heard, Sega captured 60% of the 16-bit video game market for Christmas 1991.) Nintendo's CD-ROM player won't be seen until late 1993, now. By which time nobody may care very much.

Caligari Comes Out of the Cabinet

Caligari has a new version of their software; this time, they're taking advantage of the Harlequin 24-bit graphics card from the U.K. This means that Caligari users won't have to struggle along with the awkward Bridgeboard/TARGA configura-

tion. And that means that a lot more people can buy the software. In case you forgot, Caligari was the original 3-D rendering and animation package for the Amiga, but it was never used widely since it required such an odd hardware configuration. Now that 24-bit display cards are becoming common in the Amiga market, perhaps we'll see Caligari becoming a contender in the increasingly crowded 3D software arena. Look for Caligari to support other 24-bit display boards in the future.

Goodness, it looks like the 3-D software is even more common than paint software these days. It's a good thing that users buy more than one software package, or else these companies wouldn't have much market share to go around.

VISIONSOFT					
1130 Fremont Blvd. Seaside, CA 93955					
MEMORY	UNIT	2MB	4MB	8MB	
1X4 - 80 SC ZIP	\$ 19.00	--	152	304	
1X4 - 70 SC ZIP	22.00	--	176	352	
1X4 - 80 PAGE DIP	21.00	84	168	328	
1X4 - 80 PAGE ZIP	22.00	88	176	344	
1X1 - 70, 80	5.25	84	168	320	
256 X4 - 70, 80	5.40	86	172	336	
1X8 - 70, 80 SIMM	39.00	78	156	308	
4X8 - 70, 80 SIMM	150.00	--	150	290	
AdRAM 540	95.00	172	259	--	
BaseBoard	95.00	172	259	--	
IVS Meta 4	--	180	255	--	
DataFlyer RAM	92.00	167	242	392	
AdSCSI 2080	169.00	244	319	469	
DataFlyer 500 SCSI	... 139	MultiStart II	65	
DataFlyer 1000 SCSI	... 159	BigFoot A500	89	
DataFlyer 2000 SCSI	... 85	Super Denise	45	
DataFlyer 500 / Q40	... 329	Super Agnus (2MB)	85	
C-Net AMIGA 2.0 BBS Software					
* Totally configurable			* Multi-user (24 nodes)		
* 1.3 & 2.0 compatible			* Network & AREXX support		
Orders Only: 800-735-2633 VISA/MC					
Info & Tech: 408-899-2040					
FAX: 408-626-0532			BBS: 408-626-0302		

Circle 116 on Reader Service card.

The Amiga Is Dead, Long Live the Amiga?

The Bandito hears some secretive speculation from inside Commodore that they have discussed dropping the Amiga name for the new line of computers (slated to appear next year) in favor of a new product-line identity, one that wouldn't have the Commodore label associated with it. Or the Amiga label, for that matter. Given the inevitable fact that compatibility with existing software is likely to be low, the idea may not be as strange as you think.

On that subject, the Bandito is hearing interesting noises that the new generation of Amigas may have fairly low compatibility with current software. Mostly, the compatibility problems stem from graphics revisions. But let's face it; if Commodore is to create a truly competitive machine for the

markets of today and tomorrow, they'll have to risk massive incompatibility. Except they might be able to provide some sort of emulation mode, but just how fast that might run is anyone's guess—remember the C64 emulator? But certainly, to get the full benefit of new graphics and sound modes, software will have to be rewritten. Commodore has trapped themselves by waiting so long to upgrade the graphics hardware. Now the upgrade has to be massive to be competitive, and therefore the software changes have to be massive.

Where Are The Games?

Some Amigans are starting to notice that some of the most highly touted games coming out these days are not available on the Amiga. Recent hit games such as *Secret Weapons of the Luftwaffe* from Lucasfilm or *Wing Commander* from Origin Systems will not be ported to the Amiga, according to company officials. We won't see SWOTL or WC on the Amiga because there isn't enough horsepower in the base machine to support them, or so they claim. Not enough Amiga owners with faster machines to make it worthwhile, that's what they tell Amigans who ask them. What's the real picture? The Bandito sees it this way: Perhaps 85% of Amigas run on a stock 68000. In Europe, less than 10% of Amiga owners have hard drives. In the U.S., less than half of Amiga owners. PC owners: 95% or more have hard drives. You can't even buy a PC or a Mac without a hard drive these days unless you really try. The same should be true of Amigas. And Commodore should put faster chips in all Amigas; the base A500 should have (at least) a 16 MHz 68000, if not a 68020. The extra chip cost is a few dollars, so it shouldn't be

The Computer Service and Repair Video AMIGA Edition

This video represents six years of first hand experience repairing the Amiga Computer. Covering everything from basic theory of operation to our special tricks and tips section this video is sure to save you many hours of unproductive diagnostic time. For both the user who would like to understand inner workings of this amazing computer to the experienced technician this video can save you time and money.

Send your check or money order for
\$39.95 + \$5.00 Shipping & handling to

**J & C Repair
PO Box 70**

Rockton PA 15856

Allow 4-6 weeks for delivery

Circle 165 on Reader Service card.

much of a financial burden.

What are the hardcore gamers going to do? The Bandito hears that some have broken down and bought a cheap clone just so they can play some of the games that they know won't make it to the Amiga. That should be a red flag to somebody at Commodore, shouldn't it? Aw, heck, the Bandito's pretty sure that Irving Gould never reads this column anyway. Maybe he should, though; he might learn something.

World of AmiExpo

As you may remember, there's been some battling going on between the rival Amiga shows World of Commodore and AmiExpo. The Bandito told you about how they somehow kept scheduling their shows at the same time... funny how that happens, isn't it? Almost like they were competing or something. Anyway, after a great deal of protest reached their corporate ears, Commodore stepped in to try and ease the situation with a few well-placed suggestions. And it looks like things are beginning to work out.

Perhaps as a result of this, or perhaps not, there have been some interesting changes taking place. First off, the Hunter Group, which put on the World of Commodore shows, was shut down by Gordon Hunter (the founder). Does this mean no more WOC shows? No, because Karen Jewell (a former Hunter Group employee) has started her own company, Ramige Management, to put on the WOC show. WOC will continue as usual: New York in April, Pasadena in September, and Toronto in December.

In the meantime, AmiExpo has had its

attendance diminish, at least in the U.S. While the number of people going has dropped, the vendors at the show seem to be mostly video-oriented. At the recent Long Beach AmiExpo, the trend was apparent: the only booth showing off a game was Centaur Software. Everything else was related to audio or video, or else was generic hardware, usually promoted as assisting with audio or video needs.

The Bandito hears that AmiExpo is going to start holding multi-platform desktop video shows in the near future; yep, not just Amigas, but Macs and PCs too. Maybe that will become their major focus in the future, if WOC pulls away the Amiga buyers. The Bandito will keep you posted on further developments.

Memory Management, Inc.

Amiga Service Specialists

Over four years experience!
Commodore authorized full service center. Low flat rate plus parts. Complete in-shop inventory.

Memory Management, Inc.
396 Washington Street
Wellesley, MA 02181
(617) 237 6846

Circle 166 on Reader Service card.

by the time you read this. Ask your dealer about installation of these goodies. One other nifty thing: they sell molded plastic keyboard shells for the A500, with a spiral cable and interface. So all you A500 owners can have yourselves a removable keyboard—at last! Hey, here's a free product idea from the Bandito: how about an IR keyboard and interface for the A500/A2000/A3000? Heck, C= has one for CDTV. Why shouldn't other Amiga owners have the pleasure of computing from across the room?

And they're not the only company that's expanding the A500. INOVAtronics has introduced the A500 HiQ Tower package, retail price \$699.95. This unit promises expandability equal to or greater than the A2000; it's got room for five or even six disk drives (floppy, hard, tape, or optical); you can use any A2000 card, a BridgeBoard, or even the Video Toaster. It's also got a keylock access system and a 250-watt power supply. Here's the full count: four A2000 slots, two IBM PC-compatible slots, a CPU slot, and a video slot.

Gee, with Commodore's absurd new pricing on the A2000, it's cheaper to buy an A500 and an expansion chassis than it is to get an A2000. Something is seriously wrong here, Commodore. Immediately cutting the A2000 price in half would be a good first step toward fixing it...

*Please write to The Bandito:
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140*

•AC•

READY ROBOT CLUB

INTERNATIONAL
MONTHLY EDUCATIONAL DISK

For Kids 5 to 12. Any Amiga 512K, 1.2, 1.3, 2.0, NTSC & PAL. English language only. All original. No ShareWare. Quality Graphics. Global speech on/off. Point & click menus. Thinking games/tests. Stories from around the world. Parent/Teacher Corner. Hard disk O.K. Since July 1990. Hours of educational fun at your door every month. Sample \$10. Schools write on letterhead for info.

--- AIR MAIL FAMILY MEMBERSHIP COST ---
U.S. 6mo/\$36 YR/\$65 Canada 6mo/\$40 YR/\$73
Other 6mo/\$44 YR/\$81 Name, Address, Phone
VISA/MC #, DATE. U.S.A. Checks NO C.O.D.
International Money Order U.S. \$ payable to:

SIGNS ETC. BY D. KNOX
BOX 628, CARMICHAEL CA 95609, U.S.A.
INFO: 916-944-4282 ORDERS: 800-634-2952

STORIES
COLORING BOOK
SPACE UPDATE
SCIENCE



PUZZLES
TRIPS IN TIME
THINGS TO DO
DUMB JOKES

Circle 146 on Reader Service card.

The A500 Grows Up

So the pressure is building on the poor little A500. How can this little box with limited expansion capabilities compete? Well, it turns out that A500 expansion isn't as limited as you may have thought.

The Bandito asked for A500 expansion, and here's a couple of companies providing it. Pre'spect Technologies sells The Naked for the amazing price of \$39.50, which gives the A500 a single A2000 Zorro slot. The Naked Up is the same concept, but the pass-through and the connector are pointing up, and thus it allows you to put an A500 in a standard PC clone desktop case. They are working on the M-slot, which will give the A500 a full five A2000 slots, a CPU slot and a video slot—the M-slot should be available

UNDERGROUND SOURCE for AMIGA®

COMPUTER SHOPPING NETWORK

**NEVER PAY RETAIL OR MAIL
ORDER PRICES AGAIN.**

Voice orders (615) 577-5100
Multituser BBS (615) 573-8888
300-9600 baud
FAX orders (615) 577-1170

Circle 179 on Reader Service card.



High Resolution Output

from your AMIGA™
DTP & Graphic Documents

You've created the perfect piece, now you're looking for a good service bureau for output. You want quality, but it must be economical. Finally, and most important...you have to find a service bureau that recognizes your AMIGA file formats. Your search is over. Give us a call!

We'll imageset your AMIGA graphic files to RC Laser Paper or Film at 2450 dpi (up to 154 lpi) at a extremely competitive cost. Also available at competitive cost are quality Dupont ChromaCheck™ color proofs of your color separations/films. We provide a variety of pre-press services for the desktop publisher.

Who are we? We are a division of PiM Publications, the publisher of *Amazing Computing for the Commodore AMIGA*. We have a staff that *really* knows the AMIGA as well as the rigid mechanical requirements of printers/publishers. We're a perfect choice for AMIGA DTP imagesetting/pre-press services.

We support nearly every AMIGA graphic & DTP format as well as most Macintosh™ graphic/DTP formats.

For specific format information, please call.

For more information call 1-800-345-3360

Just ask for the service bureau representative.

What will you miss if you don't pick up the June 1992 issue of *Amazing Computing*?

—AC will have a special feature on the Amiga as a multimedia machine.

—AC will take a look at CDTV and its direction in the multimedia arena.

—AC will also feature great reviews such as:

Amos
Super Jam
IVS Grand Slam
RexxPlus Compiler

—Also, look for your favorite Amiga games in our expanded **Diversions** section.

Plus, get great inside information on all the best Amiga games with **Hot Tips**, our Amiga gaming forum! See how you can win a **FREE GAME!**

Be sure to catch *Amazing Computing* in June for the best in Amiga Information!

To subscribe or order back issues call:

1-800-345-3360

List of Advertisers

Please use a **FREE** AC Reader Service card to contact **ALL** advertisers who have sparked your interest. Amiga product developers want to hear from you! This is the best way they have of determining the Amiga community's interests and needs. Take a moment now to contact those companies featuring products you want to learn more about. And, if you decide to contact an advertiser directly, please tell them you saw their advertisement in *Amazing Computing*!

Advertiser	Page	Reader Service Number
ASDG, Inc.	15	102
Advanced Image	95	134
Ampex Systems	93	107
Central Coast Software	13	120
Commodore Business Machines	17	157
Commodore Business Machines	37	101
Computer Shopping Network	78	179
D.K.B. Software	CIV	194
Delphi Noetic Systems, Inc.	28	*
F.D. Software	46	189
FairBrothers, Inc.	25	130
Grapevine Group, The	45	108
Great Valley Products	1	105
Great Valley Products	5	106
Great Valley Products	9	112
Great Valley Products	11	123
Great Valley Products	4	124
Interworks	58	104
J&C Computer Services	77	165
Memory Management, Inc.	78	166
Micro R&D	70	118
MJ Systems	44	103
Natural Graphics	14	126
One Byte	69	145
Paragon Software & Electronics	71	172
Progressive Peripherals & Software	CIII	135
SAS Institute	32	128
Signs, Etc. By D. Knox	78	146
SMC	31	155
Soft-Logik Publishing	CII	109
Utilities Unlimited	29	171
Vidia	77	111
VisionSoft	77	116

*Company prefers to be contacted directly.

Correction:

In AC 7.4, April, 1992, we inadvertently place two copies of the same ad for Utilities Unlimited and left out the ad for FD Software. We apologize for any inconvenience this may have caused. We also apologize to the two companies for the mix up.—Ed.



HOT TIPS

Batman: The Movie (Data East)

Typing JAMMMM on the title screen makes it flip upside down. Now the activated cheat mode gives you unlimited lives. In addition, the F10 key allows you to move to the next level.

(Courtesy of Henning Vahlenkamp, Matawan, NJ)

Indiana Jones And The Last Crusade (Lucasfilm)

Type IEHOVAH on the title screen to turn on the cheat mode. During play, press the L key to advance to the next level. The 1 key restarts the same level and the 2 key advances you further in that specific level.

(Courtesy of Henning Vahlenkamp, Matawan, NJ)

Defender of the Crown (Cinemaware)

Holding down the K key during the entire loading of the game gives you 1,024 extra knights. With this amount of power, it's easy to win the game.

(Courtesy of Henning Vahlenkamp, Matawan, NJ)

Shadow of the Beast (Psygnosis)

At the title screen, press and hold the joystick button, as well as both mouse buttons until disk 1 finishes loading. This will provide unlimited lives.

(Courtesy of Henning Vahlenkamp, Matawan, NJ)

Kings Quest I-IV, Space Quest (Sierra On-line)

Many games created with the old AGI development system have a built-in debugger, or cheat mode. Press ALT-D, then type TP (room #) to go anywhere in the game. Typing GET OBJECT (object #) allows you to get any object.

(Courtesy of Henning Vahlenkamp, Matawan, NJ)

Home Alone (by Capstone)

1. Don't waste time—you can collect only three items at a time. Collect the traps, and set them as soon as you can.

2. The BB gun is essential. Use it to shoot the burglars and set off many of the traps. It's located on the second floor in Kevin's room.

3. Having trouble getting some of the objects? Try jumping, then grabbing the object with the F1 key.

(Courtesy of Miguel Mulet, AC Contributor)

Congratulations

Henning is the winner of *KILLING CLOUD*, the game shown in last issue's column. Congratulations, Henning! *The name of the winner will be published in next month's issue.*

To enter, send in your HOT TIPS on your Amiga games to:

HOT TIPS
P.O. Box 2140
Fall River, MA 02722-2140

Win a free game!



This month's prize:

Populous II (by Electronic Arts)

DIVERSIONS

The Perfect General

by L. S. Lichtmann

Empire is widely and rightly regarded as a classic computer strategy/wargame. Its spartan set of rules makes it simple to learn and to play, while its production/expansion orientation still offers enough of a challenge to allow it to be one of the most ferociously addictive pieces of software ever to see shrink-wrap. *The Perfect General* (TPG), from Quantum Quality Productions, promises to be to land tactical warfare what *Empire* has been to strategy: a simple, readily-learned, but challenging and durable game.

TPG requires a 1MB of RAM and AmigaDOS 1.2 or later—2.0 compatibility is explicitly claimed. It comes on a single distribution disk, but must be uncompressed onto a hard disk or a pair of floppies using the supplied installation program. The sole copy protection is a word-lookup scheme, which has the unusual but very helpful feature of supplying one with the first letter of the word being sought.

Combat involves eleven types of units with differing and

distinctive capabilities: Infantry, Engineers and Bazooka units; Armored Cars and Light, Medium, and Heavy Tanks; Mobile, Light and Heavy Artillery; and Mines. Engineers are distinguished by their ability to build and destroy mines and bridges over rivers, and Bazooka units by their enhanced offensive firepower. Infantry, Engineer, and Bazooka units move very slowly, and Light and Heavy Artillery are normally immobile. However, all these units may be loaded on Armored Cars or Tanks and transported at the speed of the armored unit.

A simple visibility model very effectively creates that "fog of war" which, to my mind, is necessary for a good wargame. Terrain is highly diverse, and affects unit visibility, mobility, and the probability that gunfire will hit its intended target.

In order to give the operation of the units a greater connection with their real-world counterparts, turns have a complex phase structure. Each turn consists of mobile artillery plot, indirect fire resolution, artillery plot, first direct fire, movement, and second direct fire phases, with players alternating actions in each phase. Each unit may fire once, and once only, in any turn. Unusually for a com-

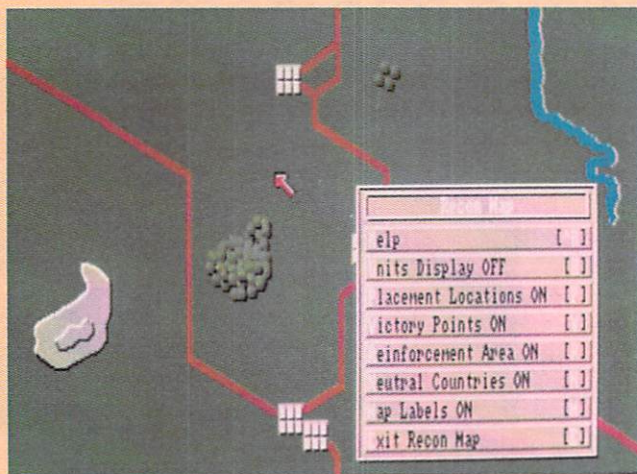
puter game, the game provides for opportunity fire: a unit may fire out of normal sequence to return fire from an attacking unit, or to fire at a moving enemy unit. Indirect (artillery) fire is especially powerful because of its extended range and visibility rules, and its ability to disrupt terrain and movement. These abilities are purchased at a price, however. Except for mobile artillery, artillery fire takes effect on the turn after the one in which it is ordered, requiring judicious use.

Fourteen scenarios are supplied, and there are hints in the program for future scenario disks. Scenarios run for a fixed number of turns, typically six to 12, with scoring pegged to the achievement of specific tactical objectives, usually the occupation of cities. Two highly-novel features are employed: player-selected orders of battle, and unbalanced scenarios. Instead of supplying each side with fixed sets of units for each scenario, each is given a certain number of points and the opportunity to construct its own army from the available types. Naturally, the more powerful units require more points for their "purchase." At the beginning of a scenario, the purchased units are placed at the players' discretion within designated set-up areas on the scenario map. There is no production, although certain scenarios allow acquiring additional purchase points and units during play through achieving specified objectives. At the outset, the "defender" will normally have fewer points to spend than the "attacker." In a complete game, a scenario will be played twice, with players alternating as attacker and defender, and the winner is determined from the composite score of both halves of the game.

TPG is nicely produced, with plenty of program options to allow

tailoring of the game and scenarios to taste. For instance, users can decide to play with either random or deterministic hits from gunfire. There are also three levels of skill for the computer opponent. The game can be played either human vs. computer, human vs. human on one computer, or human vs. human via modem. The latter option should be particularly attractive as it allows best use to be made of the game's visibility and opportunity fire features in two-human games. The graphics are about as good as one could want from a wargame, with the significant terrain features well rendered. Just enough animation and sound have been supplied to keep things lively. *The Perfect General* is fully Amiga-ized and can be played completely with the mouse, although I find judicious use of the alternative keyboard commands greatly speeds up play. The game comes with separate map sheets for the included scenarios, which eliminate the need to keep switching back and forth between the large scale and full area maps. The manual is complete and adequate, and contains a scenario walk-through for beginners, although it badly needs an index. The one point which may require some clarification is range. The range of direct fire varies with the type of target as well as the type of firing unit: the larger and tougher the target, the less the range. This is unrealistic, but is probably needed for play balance under *The Perfect General*'s simple damage rules.

My first few forays against the computer were highly embarrassing. The manual states that *The Perfect General* "though simple to play, will take a lot of enjoyable practice to master," and I have to agree. It's a "must" for anybody with a taste for computer wargames.



Darkman

by Joe DiCara

What would you have if you crossed *The Invisible Man*, *Batman*, and *Mission Impossible*? *Darkman*, of course! You would also have a great storyline for a game. That's exactly what Ocean Software has produced—a shoot'em-up, knock'em-down, action-packed game.

For those that may not have seen *Darkman*, the movie, here's a synopsis of the game plot. A friendly chemist, Dr. Peyton Westlake, has accidentally obtained a memo that is very incriminating to the local mobsters. They have decided that this memo should be returned to their custody regardless of what it costs Peyton and his friends. The gang kidnaps Peyton's girlfriend, breaks into the laboratory, kills an assistant, throws Peyton into a vat of hot chemicals, and then blows up the place to cover their tracks. But our hero somehow manages to survive the chemicals, the explosion, and the cannonball crash-landing into the drink.

Our hero can assume an infinite range of disguises to fool his adversaries and save the day. Armed only with an amazing plastic skin that covers his disfigured body and a nothing-to-lose attitude, Peyton plans his revenge and rescue. There are five 2-D levels encompassing all the running, climbing, kicking, punching, and jumping one could desire. Then there's also one 3-D section in which the enemy has lowered Peyton from a helicopter onto a busy freeway. All you have to do is dodge and weave around oncoming trucks and vehicles. There's even an automatic animated sequence to dramatize the successful conclusion of the fifth level. The sixth, and concluding level, finds Peyton

rescuing his true love, Julie, from the evil Strack—the creep responsible for all this grief. Strack has retreated to the top of an unfinished skyscraper and you must go after him. Guide Peyton safely through all the traps and henchmen and you get to battle Strack. Defeat him, throw him from the building, rescue the girl, and the game is complete.

Yes, it is a thinly-disguised remake of the *Batman* movie and Ocean's *Batman* videogame—both were pretty good. The ace-in-the-hole that separates *Darkman* from other games of this type is Peyton's disguise and the photo sessions that create them. You determine the completeness of the disguise by the amount of data collected at the beginning of each new level, by snapping off photos—shooting gallery style—of a villain as he jumps and pops up randomly in windows. If you manage to place the camera crosshairs on target enough, data is collected for the imaging computer in Peyton's new lab. Obtain at least 70 percent of the villain's image and a disguise is generated. Now you can guide Peyton undetected through attackers and enemies. Unfortunately, nothing lasts forever. It seems the skin deteriorates in sunlight, its usable time determined by the amount of photo data you collect. It's a neat idea that adds something unique to the game.

Graphics and game play are top notch. The scrolling and animation are smooth, and art work is colorful and highly detailed. Your character is easily controlled with the joystick. While a joystick can be used for the all-important photo session, I think the mouse is best suited for this event. Finally, I think the sound effects are a little weak, but at least earn a passing grade. All in all, *Darkman* is fun, challenging, and different.



Home Alone

by Miguel Mulet

As a child, one tends to get a slanted view of things. Grown-ups are unfair, your big brother picks on you, school is no fun. It's no wonder that at some point or another an eight year old kid would wish that his whole family would disappear. For poor Kevin McCallister, that's just what happens when his family inadvertently leaves him behind when they leave for a family vacation.

Not only does Kevin have to learn to fend for himself, but he has to protect his beloved home from attack by two crazy cat burglars.

The first part of *Home Alone* takes place in slightly accelerated time, during which Kevin must find useful objects around the house and then position them correctly to form a trap. The items are located in the same place for every game. Some of them can be placed in different areas that you choose, while other items, such as the blow torch, must be placed near a door. Finding and placing all the items takes practice, as you don't have very much time in which to "rig" the house.

Once the initial "hour" is up, the burglars Marv and Harry will begin their invasion, whether you're ready or not. During this phase, Kevin can keep track of their position by watching the burglar's picture at the top of the screen. This shows him which rooms the invaders are currently in. The upper center of the screen shows how many traps are left, as well as how much damage you've inflicted on Marv and Harry. Since the burglars won't set off every trap, it's your job as Kevin to lead them to and through the traps, without setting them off yourself. The game is won once you've inflicted 50 damage points against each burglar. Otherwise, you get caught!

Provided on two copy-protected disks, the player must also



enter a code from a card provided with the game in order to start the game. The game cannot be installed on a hard drive. Digitized graphics are used to tell you how Kevin got left behind, but the graphics during the rest of the game are only fair. Moving Kevin around is easy with the joystick, but you'll also need the keyboard in order to grab objects and set traps. This interface is slightly awkward at first, but it doesn't take much time to get used to. Kevin moves a bit slowly, which can be frustrating at the beginning of the game when you're using all available time in order to set the traps.

The sound effects and musical score are good, but they can also be toggled on or off by an appropriate key. For some reason, the authors decided not to support dual disk drives. This oversight is not crucial, as the first disk is used for the introduction and is not needed again. The manual provided gives you all the information you need to get started.

Overall, *Home Alone* is probably a good game for kids. There is a lot of slapstick but no real violence. While the sound effects, music, and graphics are adequate, the joystick interface could use a little work. It's slow, and you often end up going where you don't necessarily want to go. While entertaining for a while, the game doesn't have that quality that keeps you coming back for more.

Powermonger: WWI Edition

by L. S. Lichtmann

Electronic Arts and Bullfrog Productions, designers of *Populous* and *Populous II*, have released *Powermonger World War I Edition*, a data disk for last year's *Powermonger*, providing new challenges and new territories to conquer.



The World War I Edition (WWI) is a true add-on; you'll need the original version of *Powermonger* to play it. Keep track of your original manual, too. The instructions provided with WWI are on the sparse side, and the off-disk copy protection for WWI relies on the same manual-based scheme used for the original game.

Beyond the raw provision of new real estate for powermongers to grind beneath their boots, the WWI edition brings a revised look to the game. The barbarian captains of the original are now fitted out in 20th-century uniforms, and the villages which appear in the large 3-D window are fittingly modern, right down to the smokestacks on the factories. Armies in combat now take potshots at each other at a distance instead of going at it toe-to-toe. The progress of a campaign is now indicated on an easy-to-read "conquest meter," a definite improvement over the scales of the original game.

There are other small differences in WWI which alter game play. Inventions in WWI are also appropriately up to date. There are only three, simplifying decision making, if not logistics: rifles, biplanes, and tanks. Thanks also to modern technology, communication with subordinate captains is no longer dependent on the speed of carrier pigeons. Your orders are now relayed instantaneously by radio. The opportunity has also been taken to clean up the original game's rather cranky "query" feature a bit. Clicking on an item for information now produces at most single message window with a reorganized data list.

The change in the WWI edition of *Powermonger* which may be most important to prospective buyers, however, is the removal of the modem play option. WWI is strictly a human vs. computer affair.

Powermonger WWI contains enough material to sate even the most bloodthirsty conqueror for a long time. The Conquest option provides 175 territories on a map of Europe to subjugate, and unlike the original game, they must all be subdued in order to win the campaign. While the new game is still recognizably *Powermonger*, there are enough differences to require one to rethink strategies and procedures, making purchase of the data disk a worthwhile investment even for those who haven't yet reduced the world of the original *Powermonger* to utter submission.

On the aircraft carrier in *Fighter Duel*.



Fighter Duel: Corsair vs. Zero

by Miguel Mulet

The aerial dogfights of World War II are infamous, probably due to the amount of coverage they have received in both motion pictures and television. Unlike the old biplanes of WWI, the U.S. Corsairs and the Japanese Zeros were much faster and stronger, enabling them to perform spectacular stunts in the air. Both planes had their obvious strong and weak points. The Corsair was a sturdy, powerful plane which performed admirably at higher altitudes, but whose performance became sluggish at lower altitudes. The Zero was light and more maneuverable at lower altitudes, but lacked the speed of the Corsair. What could be a better match?

Although there are many flight simulators available on the market today, *Fighter Duel* limits itself to the two main fighter planes of the U.S. and Japanese military during WWII. In doing so, the game provides very realistic flight characteristics for each of these planes. The player can choose to fly either plane, in a training or combat scenario. The latter involves finding and defeating an enemy plane, a difficult task at best.

The game uses both the mouse and the joystick, which is very awkward at first. Your main flying is done with a joystick, either digital or analog, while controlling the landing gear, hook, flaps, and throttle are done with the mouse. Your plane takes off from an aircraft carrier somewhere in the Pacific, in search of the elusive enemy.

There is not much scenery while on patrol in the Pacific. About all that there is to see is your carrier, an arch, some columns, and a gunnery target in the training

mode. What the arch and the columns are supposed to represent are beyond me, but it does give you something to fly around, as well as put between you and the enemy Zero. Sound effects are limited to engine noise and machine gun fire. The lack of scenery and sound, however, does allow the game to refresh the screen at an amazing rate. There is a minimal but noticeable screen flicker present, due to the use of the hi-res interlaced video mode. Thus, the graphics are scant, but very fast.

Finding and engaging the enemy is exciting, at least for a little while. Due to the hi-res graphics, the enemy can be spotted a long way off. The speed and direction of the enemy plane is also readily appreciated at a distance for the same reason. This means that you can plan your attack from a long way off, if the Zero doesn't see you first!

Provided on two non-copy-protected disks, the game can be installed on a hard drive. The game uses the keyword lookup system of copy protection, where the player must enter a word from the manual. Game options include choosing sides, setting colors, and playing with another human being via modem or serial connection. Other options include playing in combat or training mode. Also included is a very well written, 46-page manual describing flight characteristics of each plane, fighting tactics, and training techniques.

Overall, *Fighter Duel* is a specialized game for a specialized market. There are no well-defined missions, so a player may get bored of just hunting down and destroying the enemy without a larger mission goal. The sparse graphics add a little to the monotony. On the other hand, the planes handle realistically and are challenging to fly, whether in combat or trying to land on the carrier. If you want a Corsair or Zero Simulator, then take a look at *Fighter Duel*. Otherwise, there are other products which potential pilots may wish to take a look at.

Team Suzuki

by L. S. Lichtmann

If it flies, swims, or rolls, sooner or later someone will simulate it. *Team Suzuki*, from Konami, is a racing motorcycle simulation offering 3-D graphics and race-season competition.

Team Suzuki (TS) consists of a single disk and a slim manual. The box advertises off-disk copy protection, and there is indeed a manual-based protection scheme. However, the disk is not AmigaDOS format and is uncopyable. This is particularly galling as the instructions in the manual for the IBM PC make it clear that version is unprotected and hard-disk installable. Why are Amiga owners less trustworthy?

Three classes of motorcycles are simulated: 125cc, 250cc, and 500cc. The first is by far the easiest to drive—for the larger bikes, one has to worry about gear shifting as well as steering, while the 125's have automatic transmission. Motorcycle control is with the joystick or, optionally, with one of two mouse modes.

Four modes of play are available. Practice mode allows one simply to run the cycle on a track to get a feeling for operation. Training mode supplies one with progressive lap target times to allow honing of one's driving skills without the problems of having other racers on the track. Single Race mode allows one to run one race on any of the 32 international tracks modeled in the program. Finally, Full Season presents one with a set of 16 races from one of two sets and the challenge of finishing with the best overall standing possible. Fortunately, when running a full season, records can be saved to disk after the completion of any single race. *Team Suzuki's* full 3-D graphics have both advantages and disadvantages. Compared to scrolling

bitmap graphics, the 3-D graphics are much more pleasing in terms of realism and lend themselves to multiple perspective viewing. *Team Suzuki* offers the player the choice of a conventional over-the-dashboard view, or any of four external views. On the other hand, the detail is sparse. The other bikes are reduced to polyhedral ap-



proximations without riders, a perspective that may put off a great many users.

My one real beef about the game is the "fractional damage" arrangement. Running off the track starts cranking up a "damage meter." Contacting grandstands or other portions of the terrain operates the same way. When the meter reaches 100%, you've crashed and are out of the race. This seems highly unrealistic to me. Running off the track should simply decrease your speed. The penalty for intimacy with landmarks should result in the inherent loss of speed, or an immediate crash, depending on severity. A matter of taste—the fractional damage system certainly does make *Team Suzuki* more tractable for beginning, or clumsy, drivers.

Since I'm not an arcade game wizard and have never ridden a motorcycle, I shrink from trying to comment on the realism of the modeling of bike dynamics. Nevertheless, I'm willing to make the observation that the racing in *Team Suzuki* is hard. In particular, trying to control the heavier bikes around a sharp corner while maintaining any decent speed is a major test of courage. In spite of a few irritating points, I think I can recommend *Team Suzuki* wholeheartedly to anyone whose reflexes crave a real challenge.

Thromulus

by Tim Duarte

In a secret laboratory, a geneticist named Professor Throm has created a strange new organism, *Thromulus Disgustus*. The microorganism can invade any living creature's bloodstream. Even more, *Thromulus Disgustus* can duplicate itself and infect the host's blood cells. In a matter of time, *Thromulus* can dominate a creature's bloodstream. Unfortunately, he's discovered that the organism has infected his assistant's bloodstream. It's not too late—we can inject a new batch of *Thromulus* cells to overtake the batch invading the assistant's bloodstream.

This is the basic storyline behind *Thromulus*, TTR's latest strategy-based game. From this description of the game, the storyline sounds similar to Centaur Software's *Fantastic Voyage*. Both games involve entering the human body and eliminating a certain enemy. The similarities end there, however. *Fantastic Voyage* is a shoot 'em up game while *Thromulus* is a strategy/thinking game.

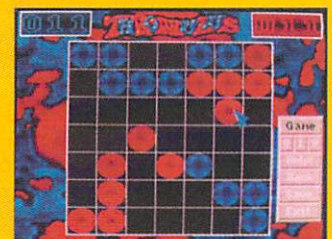
Playing *Thromulus* is quite fun. The gameboard is comprised of squares, resembling a single-colored checkerboard. After you select the variable game options and choose a cell color, it's time to fight the enemy. This is accomplished by moving your cells on the board. The object in *Thromulus* is to gain more squares than the other colored cell can. There are a number of ways to move, making gameplay very interesting. By clicking on your cell, you can divide in two, and occupy a new square on the board. Or, you can choose to jump a few squares to gain territory. When jumping, your cell simply moves and does not divide. If you can move and strategically position one of your cells near an enemy cell, your cell transfers its genetic code and it becomes one of your own! Chalk up another piece of the board for your-

DIVERSIONS

self! If enemy cells are horizontally, vertically, or diagonally adjacent to the piece you just moved, you can score big and attack them all. Watch out and be defensive though—the enemy can easily do the same to your cells during a move. I managed to conquer the first two levels, but found the computer is smart at the higher levels. *Thromulus* challenges and requires you to constantly plan your moves defensively and offensively.

Thromulus offers a number of features which add to the variations of play. Players can also use viruses and white blood cells in a game. The viruses cause the cells on the board to move a few spaces and the dangerous white blood cells entirely eliminate the opposing colored cells.

Players can control the level of the background music, and turn the background graphics on or off. Games can be saved and loaded to and from diskettes, and a new game can be created with the included board editor. If you get stuck and can't seem to locate a suitable move, there's a feature which will give you a hint. You can even take back one of your moves if you wish.



Thromulus comes on one diskette and it requires 1MB of RAM. There is a copy protection scheme, which simply involves looking up an object from the 16-page manual. If you enjoyed *Shanghai* (by Activision), you'll probably love *Thromulus*.

Millenium

by Miguel Mulet

It had finally happened—the destruction of the Earth. No, not a nuclear war, but the asteroid was just as lethal to all life on Earth. In January, 2200 AD, a twenty-trillion ton asteroid crashed into the Pacific Ocean. With great velocity, it dug its way into the planet, cracking the Earth's crust and causing violent earthquakes. The Earth was left devastated, lifeless. Humanity had been preserved only because of the existence of a lunar base, which now had to fight to preserve what was left. As the commander of the base, you must preserve the human race and help mankind survive the *Millenium*.

Millenium is a futuristic strategic adventure, in which you must insure the safety of the human race. Starting out with the meager facilities provided to you as the lunar research chief, you set out to accomplish several goals. 1) Stabilize the moon base and make it self sufficient. 2) Gather enough minerals to produce interplanetary vehicles, in order to colonize other worlds. 3) Defend the base from hostile forces.

Six divisions of the base lie ready to assist you in your tasks. The production facility can create almost any necessity, as long as the raw materials are available. The resource station oversees the mining and distribution of minerals, while the energy station provides enough raw power to maintain and expand the current base. Research provides the "brains" to provide new technologies that will help all the other departments, and life support insures that all facilities will keep up with the hopefully increasing human population. Although it starts out small, the defense department must grow to protect the base from hostile forces.

The game is almost completely mouse driven—just point at the department you wish to visit on the screen, and click. An icon bar at the top of the screen allows the user to quickly access other functions, such as launching of spacecraft or viewing the solar system from space. When production times or flight times increase, an advance hour or advance day icon can be used to speed things along. Saving and loading games is also controlled by an icon at the top of the screen.

Gameplay is excellent, at least in the exploration phase of the operation. As base leader, you must constantly upgrade your power source and insure adequate quantities of raw materials are available in order to meet with production demands. Production

must produce enough probes, fighters, and living quarters in order to meet with the needs of the base. Lastly, you must reach to the stars, for the moon cannot provide enough material to sustain the human race.

Game graphics are well done, as are the sound effects for each section. Unfortunately, the fighter defense sequences are rather crudely illustrated, and difficult to control with the mouse as well. Fortunately, attacks are rare enough that this is a minor annoyance. The one-disk game, which is copy protected, also includes a 27-page manual which explains the functions of all the units.

Millenium makes colonizing outer space extremely interesting. Although the game's design is fairly straightforward, I found myself playing for "lunar days" on end, trying to reach all the planets and moons of the solar system. Once this was accomplished, establishing outposts on the viable planets became the next major challenge. Overall, I really enjoyed *Millenium*. Although there's not much action, the thinking process involved in orchestrating man's ascent into the stars was most riveting. Take a look at this one.

The defense department at the lunar base.



Product Information

The Perfect General
Price: \$59.95
Quantum Quality Productions
1046 River Ave.
Flemington, NJ 08822
(908) 788-2799
Inquiry #245

Darkman
Price: \$39.95
Electronic Arts/Ocean
1450 Fashion Island Blvd.
San Mateo, CA 94404
(415) 571-7171
Inquiry #246

Home Alone
Price: \$39.99
Capstone
14202 S.W. 136th St.
Miami, FL 33186
(800) 468-7226
Inquiry #247

Fighter Duel: Corsair vs. Zero
Price: \$49.95
Jaeger Software
7800 White Cliff Terrace
Rockville, MD 20855
(301) 948-6862
Inquiry #248

Powermonger World War I Edition
Price: \$29.95
Electronic Arts
1450 Fashion Island Blvd.
San Mateo, CA 94404
(415) 571-7171
Inquiry #249

Team Suzuki
Price: \$39.95
Konami
900 Deerfield Parkway
Buffalo Grove, IL 60089
(708) 215-5100
Inquiry #250

Millenium
Price: \$39.95
MicroProse/Paragon
180 Lakefront Drive
Hunt Valley, MD 21030
(301) 771-1151
Inquiry #251

Thromulus
Price: \$44.95
TTR Development
6701 Seybold Rd., Ste. 220
Madison, WI 53719
(608) 277-8071
Inquiry #252

PD Serendipity

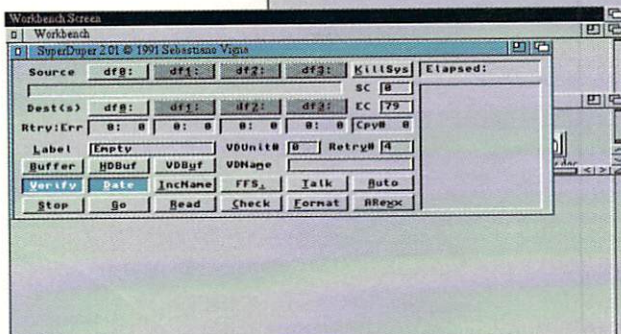
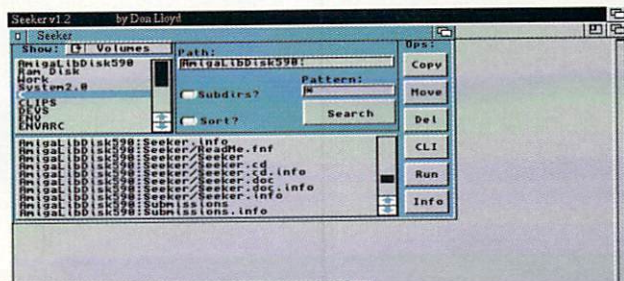
The Non-Commercial Developer

Although this column carries the title PD Serendipity, we have found there is a growing amount of freely redistributable software that is being marketed directly by their creators as shareware. This hybrid software allows developers to test and market software at a very reasonable cost. It also allows users to get utilities and other features that they might not otherwise have access to.

With new development programs such as *CanDo* and *AMOS*, more people are presenting their ideas in shareware form and selling it through the networks. The only problem with this system is its reliance on everyone who uses and enjoys the software to send in the payments requested. In order for these endeavors to continue, it is in all of our best interests to see that the developers are paid the modest amounts they have requested.

Along with the shareware philosophy is another that is becoming highly visible, demoware. We have had this style of PD for sometime. Recently, however, there appear to be more small developers who have looked to demoware as a way to test the marketability of their ideas while you test the functions in their programs. If the developers receive a good amount of feedback about their programs as well as interest in purchasing the complete product, they will continue with their development. However, if they receive no or little interest, they will quietly fold the project and work on something else. What this saves developers in marketing dollars and other development costs allows them to continue developing another application.

Right: *Seeker* is a versatile file-finding routine from Donald Knox.



Left: *SuperDuper* from Sebastiano Vigna is the latest non-commercial disk duplicator for the Amiga.

Both marketing schemes guarantee that developers have an opportunity to create new products and establish their credentials in the market while saving money for the final difficult task of going commercial. We have drawn a few of these programs aside for this month's column.

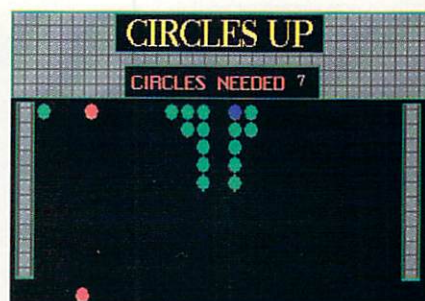
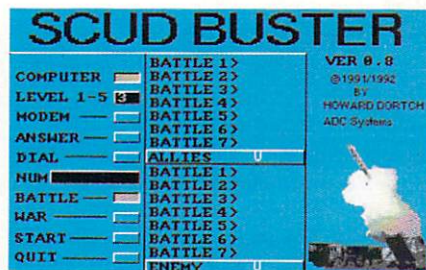
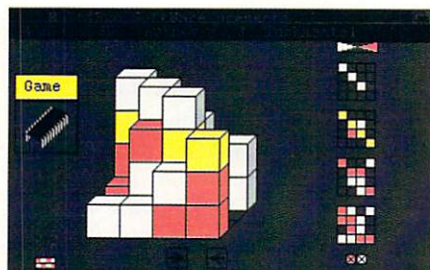
ScudBuster

ScudBuster (Fred Fish 597) by Howard Dorch of ADC Systems is a demonstration program for a game based on the Gulf war. At the beginning you must deploy your equipment. You have three surface-to-surface missile trucks, a surface-to-air missile truck, a radar installation, and your command post. You position your equipment around the playing field in areas and

patterns where you think you can either protect them or they are not likely to get hit.

ScudBuster is challenging, as you quickly move to protect your forces from incoming Scuds with surface-to-air missiles, send your AWACS to gain intelligence, and fire a barrage of surface-to-surface missiles to destroy your enemy's ground forces.

Although this version does not allow modem play, the included documentation states that this feature is in development for 300-baud modems. This two player mode would produce fair competition compared to the computer player which is extremely hard to beat. The author asks that you register your *ScudBuster* for \$10 and get the updates to version 1.0 for free when they are available.



Games: *Cube4* (left), *ScudBuster* (center), and *Circles* (right) demonstrate the growing variety of entertainment software in non-commercial software.

Elements 2.3b - (c)1991 Paul Miller - All Rights Reserved.

Elements 2.3b - (c)1991 Paul Miller - All Rights Reserved.

Carbon (C) Atomic Weight: 12.011 Electron Configuration: 1s² 2s² 2p² Oxidation States: 4, 2, 0, -4 Boiling Point: 4178.9 K (4197.8 °C) Melting Point: 3300.0 K (3027.8 °C) Density at 300K (g/cm³): 2.62 Covalent Radius (Å): 0.77 Atomic Radius (Å): 0.91 Atomic Volume (cm³/mol): 3.58 First Ionization Potential: 11.82 eV Heat of Fusion (kJ/mol): 1.17 kJ/mol Heat of Vaporization (kJ/mol): 410.9 kJ/mol Electrical Conductivity (10⁹/Ωcm): 0.0001 Thermal Conductivity (W/mK): 1.66

Above: *Elements* by Paul Thomas Miller takes the mystery out of the Periodic Table of Elements by listing information on each substance when its position is clicked.

GraffitiEdemo

GraffitiEdemo is a drawing program on Fred Fish Disk number 610. This is a demonstration program for *Graffiti* produced by Marcus Schiesser. The program allows users to work in either NTSC or PAL. A shareware program priced at \$30 (or 40DM), *GraffitiEdemo* is upgraded to the full *Graffiti* program when you pay your shareware fee. Promising third button mouse support, this small program is reasonably gifted. It carries all the standard tools of other paint programs, but remains small enough to be priced within everyone's budget.

Written in AMOS, *Graffiti V1.5*, allows you to create images, flip them in both the Y-axis and X-axis plus gives you spray cans, shapes, etc. The only drawback with *GraffitiEdemo* is that you are not allowed to save. This feature waits until you have paid your shareware fee.

Seeker

Seeker by Donald Loyd is a search-and-find file utility written using CanDo. Available either through CLI or the workbench, *Seeker* will search directories and subdirectories and present the information in a sorted list if you choose. *Seeker* takes advantage of several wildcards. You can specify beginning letters and end letters in the same search as well as just end letters, or combination of beginning letters and any number of a certain end letter.

Once found, a file may be copied, moved, deleted, and run, or you can open a CLI window or display an info file. You can even save a text file of your last search to be used later.

Seeker is a shareware endeavor, which means if you want to use this versatile little program, you should send the \$10 requested to its creator.

SuperDuper 2.0

SuperDuper 2.0 is Sebastiano Vigna's disk copy and format program. *SuperDuper* can buffer a disk's contents into RAM in less than 36 seconds. This then allows you to copy a verified copy in 67 seconds and a non-verified copy much faster. *SuperDuper* does lose time when four Amiga drives are used, but the difference is only marginal. *SuperDuper 2.0* comes complete with an extensive electronic manual on Fred Fish Disk 590.

Elements

Remember those long hours in high-school chemistry? You would stare at the large chart hanging in the front of the room. Sometime that year you learned that it was the Periodic Table of Elements; yet, after you had crammed for that exam, you had little memory of what it was actually used for. Well it's back, and Paul Thomas Miller's Amiga version is an compilation of values and statistics that would make any chemistry student proud.

Not only does the Periodic Table of Elements come on the screen in an easy-to-read, and all-too-familiar, format, but if you click on any of the elements, you are given a complete list of its vital statistics. Now it is possible to quickly show any chemistry student the relationship between one element and another. It is even possible to demonstrate why the elements have been grouped on the chart in their present order.

This is a great example of using technology to solve a problem. Mr. Miller has placed *Elements* in shareware with a request of \$15 or more (far less than the price of a chemistry workbook). Release 2.3b has added Swedish and German data files.

Elements is on Fred Fish Disk 593.

CirclesUp

Jason Lowe has given us an action game for two players, *CirclesUp*. The goal is to get a specified number of your circles in a row before your competitor does. The circles fire from either side of the screen and you shoot them in place by correctly timing the press of your side's Alternate key. Some strategy is involved as you attempt to block your opponent and still get your four in a row (similar to *Connect Four*). Mr. Lowe has placed *CirclesUp* in the public domain (no shareware fees) and it is available on Fred Fish 592.

Cube4

Cube4 by Joachim Tuckmantel is similar to *CirclesUp* in that you must connect four cubes in a row. However, *Cube4* takes place in a three-dimensional format and instead of speed and skill, it requires attention, strategy, and patience. While the different levels are displayed in a column on the right hand side of the screen, a picture of the playing field is presented in the middle. You must remember you are playing in three-dimensional space or you quickly lose track of your opponent's strategy. Instead of public domain, Mr. Tuckmantel has decided to retain his copyright but make the program freely redistributable. You will find it on Fred Fish 594.

More Information

For a list of the latest freely redistributable software in the Fred Fish Collection, please refer to the listings on pages 94 and 95 of this issue. For a listing of the entire Fred Fish Collection, please refer to the latest edition of *AC's GUIDE To The Commodore Amiga* (now with Cat Fish indexing).

1.> cli directory

by Keith Cameron

1.> In the past few months, I have discussed a number of AmigaDOS commands and related topics, such as the advantages of using the CLI rather than Workbench, the use of pathways, and how to make your RAM disk more functional for single drive users. That's quite a bit to remember. Fortunately, AmigaDOS does not require the user to memorize the format of each AmigaDOS command. Most AmigaDOS commands, both those that come on your Workbench disk and those available in the public domain, make use of a format listing and a template. Knowing how to interpret these features makes using the CLI much simpler.

To begin, let's examine the template and format for a familiar AmigaDOS command. In a recent article, one command we used extensively was the COPY command. To view the template for this command, type "copy," followed by a space and then a question mark. When you hit the return key, you will get something which looks similar to this:

```
FROM/M,TO/A,ALL/SQUIET/S,BUF=BUFFER/K/N/CLONE/S, DATES/S,NOPRO/S,COM/
S,NOREQ/S:
```

This is the template for the COPY command. Basically, a template describes the arguments that a command will accept. To be honest, a template such as this is rather cluttered and intimidating, and I really don't find it to be that useful. As a result, I don't really rely on the template very much. Instead, I prefer to use the format listing. At the end of the template, you will notice a colon (:). The cursor should be to the right of the colon, which means that the computer is ready to accept more input from you. If you were to hit the return key, you would get the format listing for the COPY command. For version 2.0, it should look like this:

```
COPY [FROM] {<NAME|PATTERN>} [TO] <NAME|PATTERN> [ALL] [QUIET]
[BUF|BUFFER=<N>] [CLONE] [DATES] [NOPRO] [COM] [NOREQ]
```

Once again, I don't pretend to know what everything in this format listing means; in fact, for everyday use, it is not necessary to understand all of it. In these formats, different types of bars and brackets are used to provide the following information:

<> These are called angle brackets. They contain information, or arguments as they are properly called, that must be included.

[] These square brackets contain arguments that are optional; that is, such arguments can be included or omitted.

{ } These braces indicate that the enclosed items can be given once or repeated numerous times.

| A vertical bar such as this is simply used to separate arguments. Only one of these arguments can be selected, however.

Using this information, we can begin to make some sense out of the format of the COPY command. Any words not included in any type of brackets must be typed, so obviously the COPY command itself must begin the command line. Next, notice that both "FROM" and "TO" are included in square brackets, so they are not necessary to execute the command. Some people, however, prefer to use them just to keep things properly sorted in their minds. For example, I normally include "TO" in my arguments, but I never include "FROM."

You will next notice that NAME and PATTERN are enclosed in two types of brackets. First, they are enclosed in angle brackets, so this information must be given. Since the two words are separated by a vertical bar, only one of them can be given. For most uses, this will usually be a name, such as the name of a file or directory which you wish to copy. Second, "NAME" and "PATTERN" are enclosed within braces, which indicate that either argument can be repeated. In other words, you can name more than one file to be copied. Following the "TO" option is another occurrence of "NAME" and "PATTERN." However, this time there are no braces, so only one destination can be listed. Once again, the angle brackets indicate that this argument must appear, and the vertical bar indicates that only one of the arguments will be used.

For most people this will suffice; generally, only more experienced users will make use of the remaining arguments in the format. A quick glance will reveal that all of the other arguments are enclosed in square brackets, so all of them are optional.

To use the copy command, then, you would at the very least need to type something like this:

```
COPY FILENAME DESTINATION <RETURN>
```

You could, of course, type much more, such as the following:

```
COPY FROM FILENAME TO DESTINATION <RETURN>
```

If you wanted to copy several files to one destination, you would type something like this:

```
COPY FILE1 FILE2 FILE3 DESTINATION <RETURN>
```

With this information in hand, you should be able to figure out how to use most, if not all, AmigaDOS commands. At this time, try experimenting with some and examine the template and format for each one.

In last month's article, we altered the startup-sequence of our boot disk to customize the disk. Instead of altering the contents of a disk, though, why not try constructing a disk from scratch?

To do this, we need a blank formatted disk. Now, you could go to Workbench and use the mouse and menu bar to format (or initialize) a disk, but since we are working with the CLI, let's use AmigaDOS.

Single-drive users can refer to my January article to see how to install the FORMAT command in the RAM disk. Two-drive users will have no problem.

If you've never used the FORMAT command before, the first thing you should do is examine the command's template and format. To do so, type

```
FORMAT ? <RETURN>
```

You will see the cursor two spaces to the right of the colon, which is at the end of the template. If you hit the return key again, you will see the format listing for the command. For me, the format listing is much more revealing. For version 2.0, you should see

```
FORMAT DRIVE <drive> NAME <name> [NOICONS] [QUICK] [FFS] [NOFFS]
```

Notice first of all that three words ("FORMAT", "DRIVE", and "NAME") must be included in the command line. Additionally, you must specify a drive (DF0:, DF1:, etc.) and a name for the disk you wish to format. All of the other arguments are optional. If you do not want the Trashcan and its icon to be created, for example, include the NOICONS argument. Including the FFS argument will create the Fast File System which some people prefer. For novice users, it might be a good idea to not use this option, though, until you learn just what it means.

execute this command from your RAM disk, for with my version there is no requester which appears asking you to insert the disk as there was with the FORMAT command. To do this, you would need to copy the INSTALL command to the RAM disk, then type the following:

```
RAM:INSTALL DF0: <RETURN>
```

Once you have done this, reset your Amiga and try booting your machine using MYDISK. This time, the computer will boot very quickly, and a blue screen will pop up announcing the version of AmigaDOS being used. However, since there are no libraries, 'c' directory commands, or other programs on the disk, there is really nothing you can do. You could insert your Workbench and operate using it. That would take a little manipulating, though. For example, you would have to type the complete pathway for each command, such as the following:

```
DF0:C/DIR DF0: <RETURN>
```

If you only typed DIR, the computer would not be able to find the command, for it would be searching for it in the 'c' directory of the boot disk, which is no longer in the computer. The main point here, though, is that the computer is at least operational at this point, thanks to the INSTALL command. With some work, it can be manipulated.

With this information, you should be able to figure out how to use most AmigaDOS commands.

If you have two drives, put the disk to be formatted in drive DF1: and type

```
FORMAT DRIVE DF1: NAME MYDISK <RETURN>
```

If you are using a single drive, substitute DF0: for DF1: in the above example, and hit the return key while your Workbench disk is still in the internal drive. Don't worry! Your Workbench disk will not be formatted. After you hit the return key, a line will appear requesting you to insert the disk to be formatted in drive DF0:. You can then safely remove Workbench and insert the blank disk.

Once the disk is formatted, it is useful only for storing information on; that is, if you were to reset your computer and insert MYDISK, the drive would spin momentarily, and then the startup screen requesting you to insert Workbench would reappear. In order for a disk to be able to boot the computer, it must have an acceptable boot block written on the disk. To do this, you would use a command called INSTALL. To learn how to use this command, call up its template and format listing. Once you do so, you will see the following for the format.

```
INSTALL [DRIVE] <DF0:|DF1:|DF2:|DF3:> [NOBOOT] [CHECK] [FFS]
```

By examining the format, you will see that only two arguments are necessary: the INSTALL command itself and the name of the drive. Since each drive is separated by a vertical bar, that means that only one drive can be listed. If you are a single drive user, you probably should

The INSTALL command is important for certain situations. If you wanted to build a boot disk from scratch, you would use it. You would then add libraries, 'c' directory commands, and other programs you wanted to include. Some non-commercial software also requires use of this command. Most public domain programs come on disks with other public domain programs. Occasionally, a program will require a separate disk on which to operate. Documentation with the program will instruct the user how to move files onto a new disk. The INSTALL command will then be used to build a boot block on the disk. That way, the disk will be able to boot and operate on its own, just like a commercial software program. As a result, Workbench or any other boot disk you use will not be necessary.

You could also refer to last month's article and begin constructing your own startup-sequence for your new disk. To actually construct such a disk from scratch is a task which may require careful documentation and tedious revising. However, experience is often the best teacher, and such an undertaking can be quite rewarding in many ways.

•AC•

Please Write to:
Keith Cameron
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

AMAZING COMPUTING

Vol. 6 No. 3, March 1991

Highlights include:

"NewTek's Video Toaster: A New Era in Amiga Video," a complete tour of the Video Toaster, by Frank McMahon
"Ultrasonic Ranging System," the sonar system project continues, by John Iovine
"Writing Faster Assembly Language," the discussion on how to speed up programs with assembly is completed, by Martin F. Combs

Vol. 6 No. 4, April 1991

Highlights include:

"DCTV," manipulate millions of colors in real time, by Frank McMahon
"Lauren in Disguise," workaround to DeluxePaint III's lack of HAM support, by Merrill Callaway
"Medley," by Phil Saunders
Plus, a special feature on Graphic Word Processors

Vol. 6 No. 5, May 1991

Highlights include:

"The Big Three in DTP," a desktop publishing overview by Richard Mataka
"The Amiga Desktop Publisher's Guide to Service Bureaus," by John Steiner
"M.A.S.T.'s Parallel Port SCSI Adapter," An inexpensive way to attach a hard disk to your A500, by Dan Michaelson
"All in One," programs for the beginner, by Kim Schaffer

Vol. 6, No. 6, June 1991

Highlights include:

"MaxiPlan Plus," a review by Chuck Raudonis
"CDTV," a comprehensive look at Commodore's hottest item
"HAM-E," a review introducing an excellent 24-bit color video board, by David Johnson
"Pixel 3D," review by John Steiner
"Professional Page 2.0," a review of a complete and truly professional desktop publishing package by Rick Broida

Vol. 6 No. 7, July 1991

Highlights include:

"Firecracker 24," a review of the latest in 24-bit video boards from Impulse by Frank McMahon
"Proper Grammar," a review of a comprehensive spelling and grammar checker by Paul Larrivée
"PageStream," another entry in the word processing/desktop publishing software line, by John Steiner
Also, extensive Summer CES coverage!

Vol. 6 No. 8, August, 1991

Highlights include:

"AlterImage," create tiling and special effects for your home videos in minutes, by Frank McMahon
"The Jerry Bryant Show," AC interviews Jerry Bryant, whose secret weapons for producing four hours of television a week are the Amiga and the Video Toaster
"Understanding Genlocks," by Matt Drabick
"Super 8 Meets the Amiga," easy film-to-video transfer with the addition of Amiga graphics, by Patrik Beck
"Looking Good with B.A.D.," a review of Centaur Software's disk optimizing program by Rick Manasa
Also, AC continues the extensive coverage of the Summer CES in Chicago!

Vol. 6 No. 9, September 1991

Highlights include:

"Bars&Pipes Professional," a review by Phil Saunders
"Frame Buffer Face-Off," an overview of framebuffer, by Frank McMahon
"DynaCADD," a review by Doug Bullard
Plus:
Special reports on Multimedia applications
AND
Super show coverage from Australia and Orlando!

Vol. 6 No. 10, October 1991

Highlights include:

"Art Department Professional," a review of ASDG's powerful program by Merrill Callaway
"ShowMaker," beyond desktop video, by Frank McMahon
"APL and the Amiga," by Henry Lippert
Plus:
An ARexx double feature and a special education section

Vol. 6 No. 11, November 1991

Highlights include:

"Connecting Your Amiga to the Sharp Wizard," by Merrill Callaway
"Epson 300c Flat Bed Scanner," review by Merrill Callaway
"Impact Vision 24," a sneak preview of GVP's powerful 24-bit board, by Frank McMahon
"CSA Mega-Midget Racer," a review of CSA's powerful accelerator board, by Mike Corbett
"Why Should You Use the CLI?" three sound reasons to use the command line interface, by Keith Cameron
Vol. 6, No. 12 December, 1991
Highlights include:
"Audition 4," a review of a great sound sampler package by Bill Frazier
"Draw 4D Pro," a look at ADPSEC's latest update to Draw 4D, by R. Shams Mortier
"Newsletter Basics," a tutorial on how to create professional newsletters using PageStream, by Pat Kaszycki
"AmigaDOS for the Beginner," another look at the basics of AmigaDOS, by Keith Cameron
Also: Coverage of AmiEXPO Oakland and the Koln, Germany, show!

Vol. 7, No. 1 January, 1992

Highlights include:

"Memories," A500 memory expansion, by Sam Ammons
"Help for the Help Key," by Rick Manasa
"Getting the most from your RAMdisk," by Keith Cameron
"Installing and Using an IBM mouse with Your Amiga," by Phillip R. Combs

"DePuzzle," a puzzle-solving program for brain teasers, by Scott Palmateer

"ZipTerm," learn how to use Console.device and Serial.device while creating a telecommunications program, by Doug Thain
Also: Coverage of Germany's Amiga '91 and London's World of Commodore shows.

Vol. 7, No. 2 February, 1992

Highlights include:

"Deduct That Interest with FC CALC," by Rick Manasa
"Finding the Right Multimedia Fil," by Dave Spittler
"Images in Dentistry," by Ken Larson
"Signmaking on the Amiga," by Karen Pringle
"Perfect Pages," how to produce PostScript-quality pages without buying a PostScript laser printer.
Also: Coverage of Toronto's World of Commodore Show

Vol. 7, No. 3 March, 1992

Highlights include:

"The Miracle Piano Teaching System," by Christopher Piper
"DeluxePaint IV," by R. Shams Mortier
"Semi-Automatic Painting and Animation," by Kevin Lude
"Screen Photography," taking pictures of your Amiga screen, by Pat Murphy
Also, a special section on Amiga Graphic Design and a look at some special Amiga Artists.

Vol. 7 No. 4 April, 1992

Highlight include:

"Foundation," a review by Dave Spittler
"AdPro 2.0," review by Merrill Callaway
"ATonce Plus," review by Rich Mataka
Also, construct a database using your favorite authoring system, customize your start-up sequence, and create and produce your own video!

AC's TECH

AC's TECH, Vol. 1, No. 1

Highlights include:

"Magic Macros with ReSource," by Jeff Lavin
"AmigaDOS, EDIT, and Recursive Programming Techniques," by Mark Pardue
"Building the VidCell 256 Grayscale Digitizer," by Todd Elliott
"An Introduction to InterProcess Communication with ARexx," by Dan Sugalski
"AmigaDOS for Programmers," by Bruno Costa
—and more!

AC's TECH, Vol. 1, No. 2

Highlights include:

"CAD Application Design: Part I," by Forest W. Arnold
"Programming the Amiga's GUI in C: Part I," by Paul Castonguay
"Intuition and Graphics in ARexx Scripts," by Jeff Glant
"UNIX and the Amiga," by Mike Hubbard
"A Meg and a Half on a Budget," by Bob Black
—and more!

AC's TECH, Vol. 1, No. 3

Highlights include:

"CAD Applications Design—Part II," by Forest Arnold
"C Macros for ARexx," by David Blackwell
"VBROM: Assembly Language Monitor" by Dan Babcock
"Programming the Amiga's GUI in C—Part II" by Paul Castonguay
—and more!

AC's TECH, Vol. 1, No. 4

Highlights include:

"GPIO—Low-Cost Sequence Control" by Ken Hall
"Programming with the ARexxDB Records Manager" by Benton Jackson
"The Development of a Ray Tracer—Part I" by Bruno Costa
"The Varafire Solution—Build Your Own Variable Rapid-Fire Joystick" by Lee Brewer
"Using Interrupts for Animating Pointers" by Jeff Lavin
—and more!

AC's TECH, Vol. 2, No. 1

Highlights include:

"Build Your Own SCSI Interface" by Paul Harker
"CAD Application Design—Part III" by Forest Arnold
"Implementing an ARexx Interface in Your C Program" by David Blackwell
"The Amiga and the MIDI Hardware Specification" by James Cook
—and more!

Back Issue Index

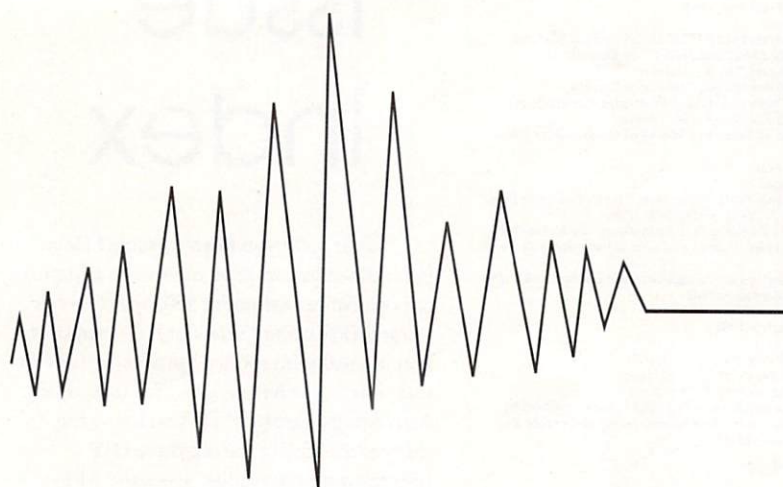
What have you been missing? Have you missed information on how to add ports to your Amiga for under \$70, how to work around *DeluxePaint*'s lack of HAM support, how to deal with service bureaus, or how to put your Super 8 films on video tape, along with Amiga graphics? Do you know the differences among the big three DTP programs for the Amiga? Does the ARexx interface still puzzle you? Do you know when it's better to you use the CLI? Would you like to know how to go about publishing a newsletter? Do you take full advantage of your RAMdisk? Have you yet to install an IBM mouse to work with your bridgeboard? Do you know there's an alternative to high-cost word processors? Do you still struggle through your directories?

Or if you're a programmer or technical type, do you understand how to add 512K RAM to your 1MB A500 for a cost of only \$30? Or how to program the Amiga's GUI in C? Would you like the instructions for building your own variable rapid-fire joystick or a 246-grayscale SCSI interface for your Amiga? Do you use easy routines for performing floppy access without the aid of the operating system? How much do you really understand about ray tracing? The answers to these questions and others can be found in *AMAZING COMPUTING* and *AC's TECH*.

How to place your order

We accept Visa and Master Card. Call our toll-free 800 number from anywhere in the U.S. or Canada today!

1-800-345-3360



Feedback

User Group in Uruguay Seeks Amigas; Australian Reader Questions PAL Compatibility; User Enjoys Reading, If Not Always Doing, *TECH's* Hardware Projects; and a Reader Compares Two Directory Utilities—*DiskMaster II* and *Directory Opus*.

Is Teacher's Toolkit PAL Compatible?

I'm writing to show interest in *Teacher's Toolkit*, a program reviewed in the V.6.10 issue of *Amazing Computing*. I'm an Industrial Arts teacher with students ages 7-12 in Woodwork, Metalwork, Drawing, and Design Technology, with some computer work.

My question is whether *Teacher's Toolkit* is available in PAL format. I also need to know where I can obtain it, using my MasterCard to pay \$49.95 U.S. Another concern is whether it's useful in systems other than American schools.

Paul Green
Sydney, Australia

A spokesperson at TTR Development assured us that *Teacher's Toolkit* is indeed PAL compatible. Also, if you have no local distributor, you may order directly from TTR using your MasterCard. See p. 86 in this issue for the address. Rest assured, too, Paul, that a member of our staff with more than 33 years' teaching experience assures us that TT is flexible enough to configure to any teaching situation. See our response to a similar concern in "Feedback," V. 7.1.—Ed.

Long Live AC's TECH!

I have nothing but praise for AC's *TECH* for the Commodore Amiga. I subscribe to both of your publications, and to *Amiga World Tech Journal*. Of the two technical magazines, I enjoy yours more.

I especially want to commend you on the wide variety of programming languages covered by AC's *TECH*. My language of choice is Modula-2 and that "other" publication won't cover any programming language unless it starts with a C. I've also enjoyed the many hardware projects you have presented. Even when I don't build them, I do enjoy reading about them. Don't change a thing! I love it all!

Howard E. Abraham
Brooklyn Center, MN

As mentioned in the editorial in AC's *TECH*, V. 2.2, *Amiga World* has decided to terminate publication of its *Tech Journal*. We hope to fill the void for its readers. Thanks for the good wishes, and continue to enjoy AC's *TECH* many more years to come.—Ed.

Directory Utilities Differ in Bells & Whistles

Your reviews of *DiskMaster II* (V. 7.1) and *Directory Opus* (V. 7.2) left the reader with the impression that both these directory utilities are nearly "ultimate" and sufficiently powerful to render previous directory utilities obsolete.

Based on these reviews and similar ones in other periodicals, I purchased *DiskMaster II* and eventually *Directory Opus* as well. While both utilities are indeed similarly festooned with state-of-the-art bells and whistles, I would like to share with your readers two very significant differences I encountered when using these two utilities.

DiskMaster II does *not* provide any method for inserting immediate string parameters or content when running programs from its many command gadgets. Except for *Rename* and *FilePattern* requesters, all user-definable requesters are strictly multiple-choice, like *Continue*, *Abort*, *Cancel*, etc. The often-used *COPY-AS* capability found in even the oldest public domain utilities is simply not possible within *Diskmaster II*. One can get around this, as I did, by writing complex little external programs and calling them appropriately

from within DiskMaster II. This is a severe limitation, which led me reluctantly to "go for broke" and purchase Directory Opus. Directory Opus permits string intervention with gleeful abandon!

Directory Opus, on the other hand, does not permit multiple command sequences in its assignment of functions to gadgets. While this is not a severe limitation, it does require writing special scriptfiles to handle multiple command needs. DiskMaster II permits multiple command sequences, using semicolons to separate command lines.

Although DiskMaster II has many attractive advantages, such as its flexible window functions, its current limitations are unfortunately severe enough—in my opinion—to render it decidedly less powerful than Directory Opus.

Richard Page
Essex, New York

Thanks for your well-expressed comparison, Richard. Perhaps there are other readers who would like to indicate why they prefer one utility over the other.—Ed.

New User Group in Uruguay Seeks Amigas

I'm working with a group of friends in order to develop a just-formed Amiga User Group. The Amiga is well known in Uruguay, as it's the Number One computer in homes.

Now we're planning to form a training center, where we can supply present and future members with computers at the lowest possible costs.

Where we have high import taxes and the income level is much lower than that in the U.S., we need to buy, used, about 20 Amiga 500s, and some 2000s and 3000s, along with many accessories.

Please tell us at what price used Amigas can be obtained and where they can be centrally shipped in the U.S. At the least, we would appreciate the names of individuals or dealers who are selling used equipment.

We have plenty of software, about 1000 disks, and have recently received the latest software news from Europe. We have updated lists which we'll send you [other user groups]. Please send us your lists.

We'll go to the U.S. to buy the computers as soon as we have some information.

Please answer to my fax number (598) (2) 915687, or if that's not possible, to my mailing address, giving me your fax number.

Our mailing address:
Grupo Amiga
Caramuru 5565
Montevideo, 11400
Uruguay
South America

Adrian Weiszman
Co-Founder Grupo Amiga
Montevideo, Uruguay
South America

Your letter, Adrian, arrived to us via the Binghamton Amiga User Group. We hope that by publishing it, individuals who can meet your needs will respond. Good luck, too, with Grupo Amiga!—Ed.

Seeks Suppliers and Distributors

I've been a long-time reader of your magazine and find it helpful with most problems that I might occasionally have. I'm writing for information that I hope you can supply.

Over the last several months I have tried to get all the information that I would need to start a computer store, dealing primarily in software. The problem is in finding suppliers of software; I have not had any luck so far. The companies that I've sent requests to have either moved or no longer exist, as I have had many of my letters returned. I believe that there must be some distributors somewhere. Any help you can lend me in finding them would be greatly appreciated.

I also have a couple of questions. There have been rumors that GVP is making an accelerator that can be mounted inside the A500-HD+ drive. Is there any basis to this rumor? Having already purchased the ICD AdRAM board before the hard drive, I now wonder if it's possible to have the memory in the hard drive and in the AdRAM board in use at the same time, on the same project. That is, would they conflict with each other, or would they increase the amount of memory that I can add to my system?

Alfred E. Murken
Niagara Falls, Ontario
Canada

We are just completing our verification of distributors and developers for inclusion in our summer issue of AC's GUIDE to the Commodore Amiga. This publication, which will be available this spring, lists over 3000 products and more than 600 vendors.

ASI

Ampex Systems Inc.
(Not affiliated with Ampex Corp.)
5344 Jimmy Carter Blvd.
Norcross, GA 30093

256K x 4-10	\$6.95
1mg x 4-80 (ZIP for Supra RX)	\$24.95
1mg x 4-80 (DIP for Supra XP)	\$24.95
1mg x 4-80 (Static for A3000)	\$24.95
1mg x 4-70 (Static for A3000)	\$27.95
1.3 ROM	\$29.95
2.0 ROM	Call
2.0 ROM (For A2630)	\$29.95
ROM Switchers	Call
MegaChip 2000	Call
1 MB Agnus	\$79.00
2 MB Agnus	\$99.95
Denise	\$29.95
ECS Denise	\$50.00
Gary	\$24.95
Paula	\$24.95
8520 CIA	\$14.95
Amiga Mouse	\$39.95
Keyboard for A500	\$89.95
Keyboard for A2000	\$120.00
Keyboard for A3000	\$130.00
Keyboard Adapter for CDTV	\$19.95
Power Supply A500	\$79.00
Power Supply A2000	\$189.00
Power Supply A3000	\$249.00
512K w/clock for A500	\$59.00
Keyboard for A1000	\$120.00
Insider II (A1000) w/1.5mb	\$279.00
A1000 PAL Upgrade Kit	\$19.95
A1000 Hard Drive Kit	\$189.00
Battdisk Static RAM Board 0k	\$209.00
DKB 2632 (32 bit RAM Board for A2630)	Call
Supra RAM 8mb card for A2000 w/2mb	Call
Supra 500XP 52 mb Hard Drive	Call
Supra Modem 2400 plus	\$134.95

Call for more great prices

(Orders Only) (800) 962-4489
FAX (404) 263-7852
(Information) (404) 263-9190

Circle 107 on Reader Service card.

It is cross-indexed, using "easy-finder" tabs, where one can easily research vendor information. In the meantime, anyone contacting us willing to supply your needs, Alfred, will get your full address after we clear with you. A spokesperson at GVP said that, indeed, the A500-HD+ accelerator is available. It has its own RAM expansion slot. The spokesperson doubted that the ICD AdRAM would be compatible.—Ed.

All letters are subject to editing. Questions or comments should be sent to:

Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

Readers whose letters are published will receive five public domain disks free of charge.

The Fred Fish Collection

Below is a listing of the latest additions to the Fred Fish Collection. This expanding library of freely redistributable software is the work of Amiga pioneer and award-winning software anthologist, Fred Fish. For a complete list of all AC, AMICUS, and Fred Fish Disks, cataloged and cross-referenced for your convenience, please consult the current *AC's Guide To The Commodore Amiga* available at your local Amazing Dealer.

FredFishDisk584

DataPlot DataPlot is a very special function "plotter". It does not really plot the data, but it creates a ".dat" file containing the function which you type in and the corresponding values that have been calculated. The ".dat" file can then be read in by "MultiPlot" (from AmigaLibDisk 467), so that you can manipulate the data with much more powerful functions than most normal function plotter programs offer. This is version 1.00. Public Domain. Source in C included. Author: Stefan Zeiger.

Electron Electron World is a cellular automaton described in "Spektrum der Wissenschaft" ("Scientific American") March 1990. This is version 2.01, an update to version 1.20 from WizardWorks 1. Shareware US\$10. Binary only. Author: Stefan Zeiger.

EnvPrint EnvPrint is a handy tool for printing envelopes for letters. Just type in the addresses or load them from disk, and EnvPrint will organize the printing job for you. Version 1.20. Shareware US\$10. Binary only. Author: Stefan Zeiger.

ExeC ExeC is a small utility for executing CLI/Shell Commands from the Workbench. This is version 1.10. Freeware. Binary only. Author: Carsten Rauß.

IFFWizard IFFWizard shows all chunks of an IFF file together with a short description and the chunk length. It knows over 170 Chunk-IDs and type-IDs and descends recursively into FORM-, LIST-, CAT- and PROP-chunks. This distribution also contains a companion file with a list of all chunk- and type-IDs known by IFFWizard. This is version 1.10. Freeware. Source in C included. Author: Stefan Zeiger.

RevHead REVHEAD is a program for generating icons for your existing source codes or executables. The info data is stored in a separate file. Features KickWB2.0 environment. Version 1.05. Freeware. Binary only. Author: Carsten Rauß.

SpLi A program for generating splices as just figures. Algorithm taken from "Spektrum der Wissenschaft". Version 1.00. Public Domain. Includes C source code. Author: Carsten Rauß.

TextStat An extended "wc" (word count) program. It has all features of the SAS-C "wc" plus the ability to count the frequency of ASCII characters, alphabetical characters and many other things in a text. Version 1.10. Freeware. Source code included. Author: Stefan Zeiger.

TurboLife A quite comfortable implementation of the cellular automaton "Life". Version 2.01. Update to version 2.00 from WizardWorks 1. Shareware US\$10. Binary only. Author: Stefan Zeiger.

WizardClock The ultimate workbench clock. Features an easy-to-use interface, a language, analog clock, digital clock, calendar, alarm, and the ability to "read" the date and time with the "SPEAK" device. Version 1.20. Public Domain. Source in C included. Author: Stefan Zeiger.

WizardFiler This nice file requester is an enhanced version of Anders Berin's "FileWindow" from disk 337. It is very comfortable and has a nice WB2.0 design. Version 1.01. Source code included. Public Domain. Author: Stefan Zeiger, Anders Berin.

FredFishDisk585 **RayDance** Demo version of the RayDance raytracer. This is a fully functional version except that it requires clicking on a continuation prompt after every 15 minutes of rendering time and the total number of polygons and spheres in a scene is limited to approximately 1400. Includes both software and hardware floating point versions. Requires a minimum of 1Mb of ram. Version 1.0. Binary only. Author: Charles Comstock.

FredFishDisk586 **AzMake** A work environment for Aztec C. You can compile, assemble, link, print, etc. your programs by clicking a gadget. Typing in the Shell is out. Version 1.1. Shareware. Binary only. Author: Christian Friedel.

BlackHole A little utility that acts like a "super-trashcan" and adds an appicon to the Workbench backdrop window. As such, BlackHole requires AmigaDOS 2.0. You can drag file or drawer icons onto the BlackHole and you will then be asked if you really want to delete the items. Version 1.0. Binary only. Author: Parsec Soft Systems.

Contour4D Creates colored, altitude mapped objects for Sculpt 4D. Two brushes are used: one to supply the color for the object and a second which, by its color intensity, gives an altitude for the object at that point. Objects are optimised so that large areas of one color and height become a single larger set of faces. Objects are output in Sculpt "scene" format. Works with ordinary, HAM or Extra-Half-brite brushes. Any palette colors can be omitted from conversion and all palette colors can be of different textures. Full intuition interface. Version 1.5. Shareware. Binary only. Author: Bruce Thomson.

LSLabel A simple labeling utility. Very powerful as the user can/must do a lot of settings by himself. Features include variable linefeeds (in 1/2 inch steps) between 21 independent lines and freely configurable printer codes. Version 1.1.2, an update to version 1.0 on disk 478. Binary only. Author: Stefan Berendes.

Opus8 A program to convert Macintosh 8-bit sounds to Amiga ISVX format. Includes source in PC Pascal. Author: John A. Safarek.

TheGalows A hangman type game with over 3000 words. The objective of the game is to fill in the blanks and guess the word before the prisoner is hung, after the seventh miss. New words can be added to the list of words to guess, up to a maximum of over 9450 words. Version 1.0. Shareware. Binary only. Author: Joe Raitz, Jr.

Tree4D Creates 3D branching trees for Sculpt 4D complete with leaves. Many aspects of the shape and design of the trees are modifiable, including color and detail level. Objects are output in Sculpt "scene" format. Full intuition interface. This is version 1.5. Shareware. Binary only. Author: Bruce Thomson.

FredFishDisk587 **ConLib** A run time reentrant library, developed with the purpose of making life easier for application programmers. It contains functions to format and display text, accept keys/messages, strings, or numbers, and to handle cursor and screen control, among other things. Version 2.00. Includes source in asm. Author: Bjorn Reese.

GMC A console handler with command line editing and function key support. GMC provides extended command line editing, function key assignment in four levels, extended command line history, online help for functions in the handler, and an iconify function. Also includes an output buffer (dump to printer and window), filename completer, script function, undo function, prompt beeper, path name in window title, close gadget for KS 2.0, etc. This is version 9.11, an update to version 9.8 on disk 434, with some new features and some bugfixes. Shareware. Binary only. Author: Goez Mueller.

TMKBP The Kickstart-Boot Project lets you build a Kickstart ROM which is compatible with the Amiga 500 and Amiga 2000. It will hold up to 3 versions of Kickstart, and can be switched between via an external switch. If software does not work under Kickstart 2.0, simply flip the switch and reboot under 1.3. It includes full step-by-step documentation, as well as schematics, and diagrams. This is revision 3.1. Author: Neil Colto and Michael Cianfione.

FredFishDisk588 **FifoLib** FIFO is like PIPE, but is based on file, library rather than its own implementation. Fio library is a general file library implementation that supports named files, writing to a file from a hardware exception, multiple readers on a file with each getting the same data stream, efficient reading, and automatic manual file control. Programs that require non-blocking IO can access one side of a FIFO: connection via the file library instead of the FIFO device. Version 3.4, an update to version 3.1 on disk 519. Includes source code. Author: Matt Dillon.

FredFishDisk589 **FracBlank** A commodities screen blanker written for AmigaOS release 2.x. When running will blank the screen and start to draw real plane fractals such as described in the September 1986 issue of Scientific American. The resulting images may remind you of spiders' webs, lace or even the Chladni patterns formed by grains of sand under a vibrating surface. This is version 1.8, an update to version 1.4 on disk 535, and includes numerous bugfixes and enhancements (such as multicolor mode). Includes source in C and assembly language. Author: Olaf Olsen Barthel.

MandelSquare Yet another program to generate images from the Mandelbrot set, different from most implementations in that it runs only under AmigaOS 2.x, requires an '020'/'030'/'040' CPU and a numerical coprocessor. The calculation routines were written in 881 assembly language for maximum speed and precision. Also included is a "movie mode" which allows generation of long camera zooms to spots in the Mandelbrot set. The resulting animations can be used in ANIM-2.5 format, allowing to replay them using "MandelSquare" or standard animation software. Version 1.3, includes source in C and assembly language. Author: Olaf Olsen Barthel.

FredFishDisk590 **Term** A gigawatt telecommunications program written for AmigaOS release 2.x (Kickstart 37.175 and Workbench 37.67 or higher required). Features include total configurability, full AReX control, Xr-transfer support, file type-identification after download, cut & paste point-and-click on screen, auto upload and download, scrollable review buffer of unlimited size, solid and fully featured VT100/VT220/ANSI emulation, optional fast atomic terminal emulation, hotkey support, powerful phonebook and dialing functions, ability to save and print the contents of the screen as IFF-ILBM or ASCII file, full overscan and screen resolution support (new ECS screen modes included), synchronous operation and a lot more. Comes with seven Xr-transfer libraries (ascii, modem, kermi, quicq, xmodem, ymodem & zmodem) and documentation both in German and in English. This is version 1.3c, an update to version 1.8a on disk 534. Includes full source in C and assembly language. Author: Olaf Olsen Barthel.

FredFishDisk591 **Crystals** A computer simulation of three-dimensional crystallites which permit you to observe stereoscopic views of any of the fourteen Bravais lattices with a variety of orientations, while rotating and positioning them in real time. The frame rate is between 10 and 30 frames per second, depending upon the options selected and the Amiga being used. It is primarily intended for educators and students in physics, chemistry, and geology. It is most suitable for use in conjunction with a course in solid state physics, or a course in crystallography. Version 2.15. Shareware. Binary only. Author: David McKinstry.

EquiLog A Master-Mind type game. Version 1.36, binary only. Author: Pierre-Louis Mangard.

MICE My Image Code Editor. MICE generates source code from standard IFF pictures. Can generate either assembly or C source. Version 1.2, binary only. Author: Pierre-Louis Mangard.

Seeker A find file type utility for AmigaDOS 2.0 with more features than most such programs. Intuition interface supports AmigaDOS and Unix-like wildcards. Several operations can be performed on found files. Version 1.2. Shareware. Binary only. Author: Donald Lloyd.

SuperDuper A very fast disk copier and formatter. Can make up to four unverified copies from a ram buffer in 36 seconds. Verified copies from a ram buffer take 67 seconds for one destination drive, plus 34 seconds for each additional destination. This is version 2.01, an update to version 2.0 on disk 551. Now includes a program to fine tune some fields in the track disk device, and a "no click" type program. Binary only. Author: Sebastiano Vigna.

FredFishDisk591 **Flyspack** A very tiny font, which is more of a gimmick than a useful tool. Perhaps the tiniest font available for the Amiga. Author: Sascha Wildner.

MonopolySrc Source to the immensely popular Monopoly game distributed in binary form on disk 251. Author: Ed Musgrave.

Vim Vi Mitigation. A clone of the UNIX text editor "vi". Very useful for editing programs and other plain ASCII text. Based on Steve (disk 256) with many enhancements such as multilevel undo, command line history, improved command line editing, full vi compatibility (except O and z commands), command typed ahead display, command to display yank buffers, unlimited line length, ability to edit binary files, file name stack, support for Manu QuickFix, shows current file name in window title, etc. Internal storage structures have been redesigned for optimal speed and memory usage. Version 1.14. Includes source. Author: Bram Moolenaar, et al.

FredFishDisk592 **CirclesUp** A simple little two player game where circles fly into the playing area from both sides of the screen. When each player presses his corresponding ALT key they fly to the top of the screen and stop moving when they hit another circle or the border. The object of the game is to connect a specified number of circles of the same color. Version 1.0, includes source. Author: Jason Lowe.

EZAsm Combines parts of C with 68000 assembly language. Produces highly optimized code. Supports all 2.0 functions and more. Comes bundled with A68k and BLink, for a complete programming environment. This is version 1.6, an update to version 1.5 on disk 484. Includes example source and executables. Binary only. Author: Joe Siebermann.

LAZI A graphic interface for the archive utilities hanc, Arc, and Zoo. LAZI will add, delete, extract, and update single or multiple files, list and test archives, allow you to read extracted reads/docs or any other ascii file, save a configuration file that holds the locations of your work directories, archive utilities, and its position when iconified. At least 1Mb of RAM is recommended. Version 1.0, binary only. Author: Mark W. Davis.

NumbersUp A simple little game where numbers fly into the playing area from both sides of the screen. When you click the mouse button, they fly to the top of the screen and stick there. The score is determined by what numbers the current number lands near, and the game ends when the same numbers end up adjacent to each other. Version 1.2, includes source. Author: Jason Lowe.

PublicService A screen clock intended for those whose day revolves around a series of breaks; this one counts down the minutes to each break, and complains if you're at the Amiga outside working hours! All break times are contained in a small text file (example given). Times are expressed in words rather than numbers. Includes source. Author: Michael Warner.

QuickTrans Freely redistributable replacement for mathtrans library, containing faster versions of all 17 functions, with almost the same accuracy. Trigonometric functions are 2 to 2.5 times as fast. Logarithmic, exponential and hyperbolic functions are about 3 times as fast. Version 1.0, binary only. Author: Martin Combs.

Star Three C functions, that you can easily incorporate into your programs to draw stars. Includes source. Author: Jason Lowe.

FredFishDisk593 **AnalRm** An integration of the Analyt/Calc spreadsheet (disk 495) and the RIM 5 relational database management system (disk 143). Integrates a spreadsheet with hundreds of functions and 18000 by 18000 cell address space, with a complete disk based DBMS, and functions permitting one to move relations or selections of relations in either direction between spreadsheet and data-base. In this way, large relations can be stored on disk, yet accessed as needed in the spreadsheet, from whence they can be computed with or plotted. The command language of RIM is fair-ly close to SQL and documents for it are included. Also sup-ports GnuPlot to provide flexible plotting. A minimum of 2Mb of memory is recommended, of which 750K must be contiguous. Because the full distribution would not fit on a single disk, it has been split onto two disks, with disk 593 containing the executable and needed "keypad" command files, and disk 594 containing the source and documentation. Author: Glenn C. Everhart, et al.

Elements Very nice interactive display of the Periodic Table of Elements. Includes general row and column information, plus a test mode where the program asks specific questions about the selected element or row/column. This is version 2.3b, an update to version 2.3 on disk 384, with some minor AmigaDOS 2.0 fixes, a new icon, and Swedish and German catalog files. Binary only. Shareware. Author: Paul Thomas Miller.

LHA A very fast archiver that is compatible with MS-DOS/LHArc V1.13 and LHA V2.13, as well as the Amiga LHArc. LHA is very memory efficient, has been written with stability and reliability in mind, has carefully optimized compression and decompression routines, is multitasking reentrant and pure, handles multiple volume archives (registered version only),

and more. Version 1.11, an update to version 1.0 on disk 517. Shareware, binary only. Author: Stefan Boberg.

PicPak A package of general purpose picture loading and manipulation functions, including IFF-ILBM loading, ViewPort color control (including tides and color cycling), and frames. Will also load and display SHAM images. Version 1.3c, includes source. Author: Paul Miller.

PictSaver A small utility that allows you to cut rectangular portions of any screen and store them on disk as IFF-ILBM files. Also allows easy saving of windows and entire screens to disk. This is version 2.4, an update to version 2.0 on disk 543. Binary only. Author: Preben Nielsen.

WindowTiler A WB2.0 commodity similar to help that cascades, tiles, etc. workbench windows. Contains 7 ways to arrange the windows. Does not affect non-sizeable windows (so dock windows, etc. don't get shifted). This is version 1.1, binary only. Author: Doug Dyer.

FredFishDisk594 **AnalRmSrc** An integration of the Analyt/Calc spreadsheet (disk 495) and the RIM 5 relational database management system (disk 143). Integrates a spreadsheet with hundreds of functions and 18000 by 18000 cell address space, with a complete disk based DBMS, and functions permitting one to move relations or selections of relations in either direction between spreadsheet and data-base. In this way, large relations can be stored on disk, yet accessed as needed in the spreadsheet, from whence they can be computed with or plotted. The command language of RIM is fair-ly close to SQL and documents for it are included. Also sup-ports GnuPlot to provide flexible plotting. A minimum of 2Mb of memory is recommended, of which 750K must be contiguous. Because the full distribution would not fit on a single disk, it has been split onto two disks, with disk 593 containing the executable and needed "keypad" command files, and disk 594 containing the source and documentation. Author: Glenn C. Everhart, et al.

Cube4 A 3-dimensional version of "zeros and crosses" on a 4x4x4 board which can be inspected from all sides. It is possible to change the side of the computer game, take back moves, change sides and abandon. Version 1.2, binary only. Author: Joachim Tuckmantel.

FredFishDisk595 **ClbSave** A small hack for saving the actual contents of the clipboard into a single file. It has been split onto two disks, with disk 593 containing the executable and needed "keypad" command files, and disk 594 containing the source and documentation. Author: Glenn C. Everhart, et al.

HOW A game where the aim is to get a ball from the start square to the exit square, while trying to turn all squares to the same color. As the ball moves across a square, the color of the square changes in a cyclic order of four colors. Also includes a level editor program. Freeware, binary only. Author: Peter Handel.

IconSwap A small utility, which allows you to quickly and easily swap the colors of your icons between the older 1.3 and the new 2.0 style. Version 1.04, includes source. Author: Uwe Röhrl.

P-Compress A gimmick-free and very easy to use program for most compression algorithms. Uses the latest LZH compression algorithm. Can handle single files, whole drawers, disks, or selected files or types of file within drawers and disks. In PACM mode it can consolidate files into less space than whole-disk compression tools or archivers. This is version 2.1, an update to version 1.2 on disk 565. Freeware, binary only. Author: Chas A. Wyndham.

P-Reader An all purpose reader that displays texts, pictures, animations and sounds, which may be uncompressed or compressed with P-Compress. Tests can include embedded static or animated illustrations and sounds. This is version 5.2, an update to version 5.1 on disk 543. Freeware, binary only. Author: Chas A. Wyndham.

P-Writer A text editor with special facilities for inserting text color and style changes and for preparing illustrated texts for P-Reader. Version 3.2, freeware, binary only. Author: Chas A. Wyndham.

FredFishDisk596 **RayShade** Rayshade is a ray tracing program ported to the Amiga from UNIX. Rayshade's features include nine types of primitives (box, cone, cylinder, height field, plane, polygon, sphere, superquadric, flat triangle and Phong-shaded triangle), composite objects, point, directional, and extended (area) light sources, solid procedural texturing and bump mapping of primitives; antialiasing through adaptive supersampling; arbitrary linear transformations on primitives; and more. This is version 3.0 patchlevel 5 and includes sources in C. The modifications for Amiga & SAS-C are distributed as diff files. Some example input files are also included.

Author: Craig K. Kolb, Amiga Port by Martin Hohl

ToolType Helps you if you are searching for ToolType keywords of a certain application. It attaches the FindToolType and the MatchToolValue functions of the icon library and records all calls to these functions along with the given arguments. This allows you to discover all keywords supported by an application as ToolTypes. Version 1.0, includes source. Author: Uwe Röhrl.

FredFishDisk597 **GoLD** Game of Life - Duo. A "Game of Life" extension. This one uses TWO trains of cells, allows free redefinition of the rules, and contains the original game as a subset. This is version 1.0, includes source in C and assembly. Author: Andreas Neuberger.

IconTools Four programs to manage some aspects of iconusing the Intuition interface and allowing one to operate on many icons at once by shift-clicking. FloatIcon 1.05 sets an icon so that the Workbench can freely place an icon in a drawer window. ReplaceTool 2.04 sets a new default tool

for projections using the Workbench icons or a file requester. Replace image 1.01 changes the image of icons to that of another. Swap Colors 1.01 swaps colors 1 and 2 in icons. The last two programs will be useful for converting to the new look of Workbench 2.0. Includes source. From Professionals 2.0. Not related to icon tools on disk 284. Author: Richard Mazzanti.

NewList A very fast and powerful list and file utility. It features fast algorithms, custom print and date formatting, 3 different types of recursion, a hunt mode, character filters, a pager, ansi, ENV support, and tons of sorts and options. This is version 6.0, an update to version 5.0 on disk 513. New features include complete WB2.0 support and compatibility, including full link handling and some bug fixes. Binary only. Author: Phil Dietz.

Scud Buster A Scud vs. Patriots missile game. This game is a combination of the old Missile Command, Battleship, and Strategic games rolled into one. Set up your strategy and launch missiles at your enemy, while he launches missiles at you. Version 0.8, binary only. Author: Howard Dorch.

ShadowMaster AmigaDOS screen saver system for AmigaDOS 2.0. It allows you to choose a saver module to be used at blank time, and to build utility modules that may (or may not) choose the actual saver. Version 37.7, includes partial source. Author: Mike Meyer.

ThinForts Seven fixed with forts in two designs to get more characters on your screen. Made for use on hires interlaced screens and A2024 modes. Author: Dirk W. Reisig.

FredFishDisk598 ANSI A small CLI utility to convert C source between ANSI and Kernighan and Ritchie function definition formats. Also allows generation of prototypes. No Amiga extensions and should be portable. Version 1.0, includes C source. Author: Andrew Martin, SciTech Software.

DX100 Editor, librarian for the Yamaha DX100, DX21, and DX27 synthesizers. Provides voice editing and librarian features similar to the FB-01 Editor/Librarian. Version 1.25. Author: James M. Smith.

FB-01 Edit parameters for FB-01 Voices and Configurations. Has graphical display of voice envelopes to improve the editing process. The librarian provides the means to organize and store a bank of voices or configurations on disk. Send customized banks to a Yamaha FB-01 or receive banks from the instrument. Print hard copy of voice and configuration banks. Version 1.25. Author: James M. Smith.

Parse A simple keyword command line parsing routine. Supports mixed case and unambiguous abbreviations in the command line. The parse routine can be used to add keyword controls to any program in an easy manner. Version 1.2, includes C source. Author: Andrew Martin, SciTech Software.

TX81Z Editor, librarian for the Yamaha TX81Z and DX11 synthesizers. Provides voice and librarian features similar to the FB-01 Editor/Librarian. Includes a Performance Editor and a Librarian. Version 1.23. Author: James M. Smith.

FredFishDisk599 DBuff Source code with a small demo, to implement double buffering by adding a second ViewPort to an intuition screen. Version 1.0, includes C source. Author: Andrew Martin, SciTech Software.

InputView A small tool for AmigaDOS 1.3 to record the input stream at a given time and then insert the recorded events again later, instead of the user input. Version 0.24, includes source. Author: Uwe Rohm.

MailMerge A utility to perform simple mail merge using the LaTeX letter style. Simply requires a letter in text format and a file of addresses. Each of these is inserted, then, into the text file which is run through LaTeX and then through the printer driver. Version 1.0, includes C source. Author: Andrew Martin, SciTech Software.

MoG A demonstration version of a commercial molecular graphics program. 3D representations of molecules may be rotated, translated and scaled on screen and changes may also be made to structures. Space filling pictures may also be generated using quick preview, shading, orbit tracing. The demonstration version allows only one of two structures to be displayed and does not allow space filling, though some sample space-filling structures are included. Version 1.03D, binary only. Author: SciTech Software.

PrLabel Utility to print laser printer labels. Supports 3x6, 2x6 and 2x7 44 label sheets. The program may easily be modified for other formats. Also serves as a demonstration of using STSLib for gadgets and menus. Version 1.1, includes C source. Author: Andrew Martin, SciTech Software.

RxShell A set of routines to form an additional layer between the programmer and Amiga. RxShell shells out to the program on disk 299 and contains a few changes and bug fixes to the routines. Using these routines, adding a RxShell support to a program becomes completely trivial. Version 1.0, includes C source. Author: Andrew Martin, SciTech Software.

STSLib Binary compatible library required to compile PrLabel. This library supplies gadgets like 3D look buttons (including checkbox, radio buttons and cycle gadgets) and menus whose label will be adjusted for different default screen text fonts under AmigaDOS V2.0. Version 1.0, link library only. Source and documentation available from the author for a fee. Author: Andrew Martin, SciTech Software.

FredFishDisk600 Env A user friendly tool to edit your "environments". You can change, add, copy, rename and delete them with an intuition GUI, instead of using DOS SetEnv/GetEnv. Features include keyboard shortcuts, font sensitive windows, and shell command line support. Version 2.08, binary only. Author: Stefan Otto.

Memcheck An analysis program designed to be used for detection and analysis of memory and disk errors. It includes a very powerful bootblock detector, a CLID detector and a vectors program. The programs check for any virus in RAM and are able to kill all viruses in RAM. All libraries, devices, interrupts, reset vectors, etc. are completely checked by the programs. This is version 5.0, binary only. Source code is available from the author. Author: Koen Peetermans.

Multi-Player Amusic player that loads and plays a large variety of the "tracker" type sound modules. With an intuition interface, allows you to load formats like Intratracker, NoisePlayer, Soundtracker, FutureComposer and others including power-packed modules! Includes many sample modules in several of these formats. This is version 1.5, an update to version 1.2 on disk 509. Binary only. Author: Thomas Landburg.

NCode A fast MC68000/10/20/30 conditional macro assembler for the Amiga. Supports both the old and the new Motorola syntax for operands and allows you to put standard parameters in an argument file. NCode can be used for any of the four CPU's and will check whether your code matches the specified target CPU. Version 1.2, binary only. Author: Edgar Visser.

Paragon A two player game where the object is to build a given crown (pattern of 5 stones) on the playground. Includes source in AMOS. Author: Volker Sieppath.

Rothello Reverse Othello like game that features the option to shift complete rows or columns of the played field. Play a human computer opponent. Version 1.0, shareware, binary only. Author: Michael Koepeke and Rolf Herrmann.

FredFishDisk601 A Pipe An "Amiga pipe" device. If opened for read, it will run the file name as an Amiga CLI command, with the output going to the opening process. If opened for write, it will run the file name as an Amiga CLI command, with output to the opened file sent to the command as input. Author: Per Boisen.

Intusput A shared library with support routines for using texts, menus, borders, gadgets, requesters, and more, under AmigaDOS 1.3. Includes a template editor and source to library and test programs. This is version 3.0, an update to version 2.0 on disk 562. Author: Torsten Jurgelie.

PP Patches AmigaDOS and makes decompiling of powerpacked files completely transparent to any program attempting to read such files. This means that any program may work directly on powerpacked files, without any need to decompress them first with PowerPacker. AmigaDOS Powerpacker fans. This is version 1.4, an update to version 1.3 on disk 542. Full source is included. Author: Michael Berg.

FredFishDisk602 JM Job Manager is a utility which extends the AmigaDOS multi-tasking environment by providing features such as: allocation of CPU cycles in any ratio to multiple CPU bound processes, default task priorities based on task name, task logging, system uptime reports, task CPU use and CPU % reports, task invocation times, and more. JM has very little impact on the system itself. Requires AmigaDOS 2.04 or later. Includes 68000/20 and 68030/40 versions. Version 1.0, binary only. Author: Steve Koren.

MathsAdv A simple game where you, the young adventurer, must try to escape the King's Maths Adventure. To do this you must pass through a series of rooms. In each room you are given a math problem to solve, after which you can proceed to the next room if you answer correctly. The problems become more involved and more difficult in each room. Includes source. Author: Jason Lowe.

MBPress A command that will detect which mouse buttons (including middle) are currently being pressed. The result can then be used to decide a course of action in a script file. Handy for your startup sequence. Requires 2.04. Includes source. Author: Steve Anderson.

PlotLib Another function plotter library with different display options in 2D, 3D or Niveau. Easy to use functions allow you to write your own plot program. Output functions for screen and HPGL plotter. Demo program included. Works on Amiga and MSDOS. Includes source in C. Author: Silvano Oesch.

FredFishDisk603 DungeonMap A little tool that creates maps of dungeons (and eventually towns) which can be used by a Dungeon Master (DM) for use in Dungeons & Dragons (D&D) game. These maps can be saved, edited and printed. This is version 1.0, binary only. Author: Bill Ellett.

DynaCADD Part 1 of a four part demo distribution of DynaCADD from Ditek International. DynaCADD is a professional 2D and 3D CAD package. This demo is fully functional except for disabled save and export functions. DynaCADD requires at minimum an Amiga with 1Mb of RAM and a hard drive, or two floppy drives. Ade-interlacer of some kind is highly recommended. This disk contains all the files necessary to recreate the DynaCADD demo disk number 1. The files for demo disk number 1 can be found on library disk number 604 and the files for demo disks 3 and 4 can be found on library disk number 605. This is version 2.04, an update to version 1.84 on disks 434 and 435, and now includes both 68000 and 68020/030 versions. Binary only. Author: Ditek International.

ICONrol An easy to use CLI command that gives you control over Workbench icons. It's main purpose is to update the look of your icons for AmigaDOS 2.0, which can be done by swapping the icons in an icon group with new images to them. Moreover, it can be used to set an icon's absolute position in a drawer or on Workbench. So it's also a helpful tool if you are not yet using AmigaDOS 2.0. Version 1.0, binary only. Author: Stefan Winterstein.

Notify A suite of Rexx programs that can be used to issue messages or run commands automatically on certain days and/or at certain times of day. Facilities are provided for the adding, editing and deleting of messages, and for displaying the times and texts of pending messages. A chime program is included to enable the time to be announced at regular intervals. Version 1.01. Author: Michael Tanzer.

FredFishDisk604 ArpRequest A demonstration of how to use the ARP header requester from AmigaBasic. Author: Andreas Ackermann.

DynaCADD Part 2 of a four part demo distribution of DynaCADD from Ditek International. DynaCADD is a professional 2D and 3D CAD package. This demo is fully functional except for disabled save and export functions. DynaCADD requires at minimum an Amiga with 1Mb of RAM and a hard drive, or two floppy drives. Ade-interlacer of some kind is highly recommended. This disk contains all the files necessary to recreate the DynaCADD demo disk number 2. The files for demo disk number 1 can be found on library disk number 603 and the files for demo disks 3 and 4 can be found on library disk number 605. This is version 2.04, an update to version 1.84 on disks 434 and 435, and now includes both 68000 and 68020/030 versions. Binary only. Author: Ditek International.

Only \$9.95 Available from your dealer or call Advanced Image

Get that wire out of the way!

The "Original" and "Authentic" MOUSE CONTROL™

Patent Pending

Made in America

This little tower will grab the mouse wire and keep it up and out of the way.

Product of: Advanced Image 2 Route 13 South Brookline, NH 03033 603-673-0212 Dealer inquiries invited

Circle 134 on Reader Service card.

MIDIstuff A package of 8 tools that use midi library so that they can use MIDI at the same time and can easily be combined in a modular way. Release 2 pre-release version, binary only. Author: Bill Barton and Carl Loesch.

RingWar A classic arcade game of reflexes. The graphics are based on the vector style of the old arcade games such as Asteroids and Tempest. The goal of the game is to penetrate through the three rotating rings and hit the five pointed star in the rings at the center of the rings, while avoiding randomly appearing mines, and the ringship firing back at you. Binary only. Author: Eric Bazan.

FredFishDisk605 DynaCADD Part 3 & 4 of a four part demo distribution of DynaCADD from Ditek International. DynaCADD is a professional 2D and 3D CAD package. This demo is fully functional except for disabled save and export functions. DynaCADD requires at minimum an Amiga with 1Mb of RAM and a hard drive, or two floppy drives. Ade-interlacer of some kind is highly recommended. This disk contains all the files necessary to recreate the DynaCADD demo disk numbers 3 & 4. The files for demo disk number 1 can be found on library disk number 603 and the files for demo disk 2 can be found on library disk number 604. This is version 2.04, an update to version 1.84 on disks 434 and 435, and now includes both 68000 and 68020/030 versions. Binary only. Author: Ditek International.

HDClick A program selector/Harddisk-menu. Programs can be started easily by clicking on gadgets which can be defined by the user. This is version 2.0, an update to version 1.21 on disk 439. This version includes sub-menus, functions to edit the gadgets, preferences to change colors, a "small" window, Hotkey, iconify and more. Includes PAL and NTSC versions. Comes with Config Tool 1.62 by Manfred Gierlert. A tool to edit HDClick-configuration easily, and with other useful functions. Binary only, shareware. Author: Claude Mueller.

FredFishDisk606 AlgoRhythms An algorithmic composition program that improves music over a MIDI interface connected to the serial port. A MIDI interface and synthesizer are needed. The music is simple but can be pretty. Now on its own 6 color screen, with 20 voices and more scales. AlgoRhythms saves its own output as standard MIDI files, and can play 330 notes/sec on a 68000 at 7MHz. Does not use Amiga audio. Version 2.0, an update to version 1.0 on disk 356. Includes source and sample data files. Author: Thomas E. Janzen.

AutoGraf Collects and graphically displays information on auto mileage. Features miles per gallon, cost per mile, miles driven, highs, lows, averages, etc. Includes a couple of sample data files. This is version 2.0, an update to version 1.0 on disk 166. Binary only. Author: Joel Swank.

FileMinder Utility for maintaining files and directories on a harddisk. Allows you to graphically see your directory structure, to move quickly to any directory, and to perform operations on the files and other directories there. This is version 1.0, shareware, binary only. Author: Joel Swank.

PrFont Prints a sample of each font from the fonts directory. Draws one line of each font on a custom hires screen, which can be printed. This is version 1.4, an update to version 1.3 on disk 305. Binary only. Author: Joel Swank.

SpellCheck A program which aids you in learning foreign words. You enter the words and their translations, and then the computer quizzes you later. Version 1.2, binary only. Author: Torger Dingeyar, Pantheon Software.

FredFishDisk607 AnimFader A small utility to fade screens in and out. Useful for soft fading things like animations recorded on video tape. This is version 1.0, binary only. Author: Andreas Ackermann.

DosControl A new directory tool that combines the functionality of many separate tools, allowing you to control the operation of your Amiga with a single program. Version 3.1, binary only. Author: Uwe Brosch.

FishCat A program designed to allow searching the entire library. Features very fast searches and the built-in ability to easily add new disks to the database. Supports many 2.0 features such as AppWindow and public screens. Iconfiles. This is version 1.1, binary only. Author: Matt Brown.

FredFishDisk608 CloneCmdKeys A commodity that maps the AmigaDOS 2.04 Shell's CUT and PASTE commands to any keys. By default, LEFT Amiga-keys will act as PASTE. Alternately, you can specify any key-mapping you like by using ToolTypes.

FastLife A fast life program featuring an intuition interface, four screens sizes, 35 generations per second on Amiga 3000/25, 19 generations per second on Amiga 2000/500/1000, and 153 patterns in text file format. Runs with Kickstart 1.3 and

2.0. This is version 1.1, an update to version 1.0 on disk 498. Changes include better intuition interface, easy selection of calculation mode, speed control, task priority control, and tooltips support. Binary only. Author: Ron Charlton.

Vertex A 3D object editor that differs from other 3D editors in many ways. You can choose any view, including perspective, to set endpoints and examine objects. The view can be rotated, positioned and scaled at will by either typed in values or using the mouse, which makes the editor fast and responsive. This is version 1.28, shareware, binary only. Author: Alexander D. Debur.

FredFishDisk609 AutoPort A software switch that makes it possible to use a trackball or mouse plugged into the first mouseport, together with another trackball or mouse in the second port, as if they were two input devices plugged into the same first port. Version 1.1, includes source. Author: Bernd (Koesel) Koesling.

bBasell A simple database program using an intuition interface. Stores, sorts and searches for information. Limited to 9 fields in each record. Features include fast sorting, search in any field, and best of all, it's really easy to use. This is version 5.3, an update to version 5.0 on disk 563. Changes include improved print-outs, and now supports mailing labels. Binary only. Author: Robert Bromley.

BootPic BootPic allows you to install nearly any IFF picture that you like in place of the Workbench hand that appears after a reset. Version 1.2, an update to version 1.0 on disk 532. Binary only. Author: Andreas Ackermann.

CryptoKing A game for those who like to solve Cryptograms. Those coded sentences that have to be decoded (or read) together with keyboard or mouse. Version 1.0, binary only, shareware. Author: Robert Bromley.

STScan A utility program for using a Siemens ST 400 SCSI flatbed scanner with the Amiga. Can be adapted to other scanners and serves as an example of SCSI-direct access to SCSI devices. Version 2.0, an update to version 1.0 on disk 560. New features include image processing and vectorization functions that can be used without any scanner. Includes source in C. Author: Frank-Christian Kneugel.

FredFishDisk610 ATCopy A program to copy files from the Amiga side of a system equipped with a PC/AT bridgeboard, to the PC side, using wildcards. Copies directly through the shared memory. Supports CLI and Workbench usage. This is an update to version 2.2 on disk 458. Now includes an AREXX port. Shareware, binary only. Author: Peter Vorwerk.

Graffiti Demo version of an art program with a feature set somewhat less than DPaint but more than many other such programs. Has a few special functions including automatic autocoloring, converting screens to other resolutions, changing RGB values of the whole screen, fast autocoloring magnifier and many others. This is version 1.5, an update to version 1.01 on disk 531. Shareware demo, binary only. Author: Marcus Schieser.

PCExecute A little program that allows you to execute programs on a bridge-board without opening a PC window. Includes source. Author: Peter Vorwerk.

To Be Continued.....

InConclusion

To the best of our knowledge, the materials in this library are freely distributable. This means they have been publicly posted and placed in the public domain by their authors, or they have restrictions published in their files to which we have adhered. If you become aware of any violation of the authors' wishes, please contact us by mail.

IMPORTANT NOTICE!

This list is compiled and published as a service to the Commodore Amiga community for informational purposes only. Its use is restricted to non-commercial groups only. Any duplication for commercial purposes is strictly forbidden. As a part of Amazing Computing™ this list is hereby copyrighted. Any infringement on this proprietary copyright without expressed written permission of the publishers will incur the full force of legal actions.

Any non-commercial Amiga user group wishing to duplicate this list should contact:
PIM Publications, Inc.
P.O. Box 869
Fall River, MA 02722
AC is extremely interested in helping any Amiga user groups in non-commercial support for the Amiga.

•AC•

And furthermore...

Amiga A600 Launched at CeBIT in Hannover for European Market



by Phil South,
Amazing Computing U.K. Correspondent



Preceded by a fanfare of high security and no comment, the Spring CeBIT Show in Hannover, Germany, was host to the launch of the new Amiga 600 computer. This was the machine previously thought to be called the A300, and as usual Commodore changed the name at the last minute just to spite everyone! Before Commodore bites my head off, I know the real story is that these products are always called what they come out being called, but Commodore likes to spread a little misinformation before the launch just to keep a marketing fog over the true details. As usual, the story of the machine was broken in the U.K. trade paper *Computer Trade Weekly* on March 16, but the first face-to-face encounter came at the CeBIT show on the guarded Commodore stand.

The A600 was there for all to see on the stand, but no spec sheets or even photos were available, and no firm details were due until the proper launch date on the last day of the show. Commodore was being quite firm with anyone who tried to wheedle his or her way into getting an advance look at the info pack, and most of the information that was available was in German. But just looking at the machine gives you most of what you need to know.

The A600 in its final "Baby Amiga" version is a similar type of case to the A500 but is only 35cms wide and 24cms deep. The drop in size is mostly due to the new model having had its numeric key pad lopped off, saving a good fifth of the width of a standard A500 Plus. Inside the case, the machine is functionally identical to an A500 Plus, except it features a much smaller motherboard and a more slimline 3.5" drive. The machine comes complete with Workbench 2.05 on disk, Kickstart 2 on ROM and the ECS, just like its dad. The machine is fitted with either 512K or 1MB of chip RAM on the motherboard, and a further 1MB can be added by installing the new A601 expansion unit in the trapdoor slot underneath the machine. Since the A600 is fitted with the 8375 Fat Agnus chip, all of this 2MB can be chip RAM, available to the co-

processors. An 8373 Denise chip is also used to give extra display modes. Additionally, an enhanced version of the 5719 Gary chip, called Gayle, has been added which supports the I/O card interface and the IDE Hard Drive interface. The processor, contrary to popular rumour, isn't a 68020 but a mere 68000 running at the usual 7.15MHz.

The trapdoor in the new regime is designed for the new smaller A601 memory expander, so that all those peripherals which use that mode of entry are out of the window, to coin a phrase. Apparently a number of A500 add-ons will not fit this new machine, including items such as the Vortex ATonce emulator, because of the board's different shape and smaller size. The motherboard, however, does have an IDE hard disk controller fitted, with room inside the case for an 2.5" internal hard drive.



Unreleased photo of the Amiga 600

A full set of interfaces has been provided on the back, serial and parallel, external disk drive, stereo audio, RGB video, composite video—you get the picture, but also an RF modulator for connection to the antenna input of your TV set. This was only previously available as an external optional extra on the A500. Mouse and joystick interfaces are to be found on the right side of the machine, next to the disk drive.

Speaking of oddity value, the biggest surprise is that the machine features a card slot at the side of the machine designed to accept the same PCMCIA/IEDA standard format ROM/RAM smart cards that you can use with the CDTV. I've yet to see these catching on in the U.K., but perhaps the German and U.S. markets are expecting to sell a lot of these electronic ice cream wafers!

It appears Commodore U.K. has spent a lot of time in the last few months talking to all the major U.K. games houses, trying to persuade them that the card thing is a good idea. Obviously the price of blank smart cards ready to be "burned" with software is the key element here. But witness the failure of the C64 cartridge-based games console last year. The support was good from the game producers like Ocean and U.S. Gold, but the public didn't want to know. Obviously game producers and writers like smart cards and carts because they can't be pirated without a lot of expensive equipment. But the public doesn't like them because they are accustomed to disks, and they don't like the price of a cartridge. The smart cards are cheaper to make and sell than the carts, but it remains to be seen which of the major game producers take up the gauntlet. The pressure is on for Commodore to find some medium that satisfies the producers and the public but confounds the pirate. Piracy is much more of a severe problem in Europe—Germany and Sweden, specifically, more than here in the U.K. so that it stands to reason a lot of pressure comes from that quarter to have something done about it.

As far as the ramifications for future Amigas are concerned, this new smaller motherboard is a natural for the long proposed but never executed Amiga portable, which is now not only possible but I would say in the cards. (Smart cards, of course.)

The price of the A600 will be in the same ballpark as the current A500 Plus, and, friends, some sources say more expensive is the case. (So less really is more!) If the A600 goes in at a price point of £399, then the A500 Plus is likely to drop in price, although this is not confirmed by Commodore. They might perhaps just slip the A500 Plus on the back burner for a while, marketing-wise. The release date of the A600 is expected to be Easter in the U.K., although a Commodore spokesman told me that "the product won't be making much impact until June at least." A U.S. release date has not yet been announced, or even hinted at.

Finally, a surprise omission. The so-called "A690" bolt-on CD-ROM drive for the A500 Plus was believed to be due at this show, but was once again cancelled for some reason. In line with the standard policy, this unit is now actually called the A570. The A570 drive won't of course fit the new A600 machine, lacking as it does the expansion slot, and this is the crucial difference between the two types of low-end Amigas. So that's the CeBIT show, as far as the Amiga is concerned. All we need now is the long awaited cheap CD-ROM drive for the 2000 and we'll all be laughing.

Other hinted U.K. releases in the near future are the A1000Plus, and the A4000, although it's recently been confirmed that the A4000 won't be launched until Spring of 1993.

Amazing AMIGA FREE INFORMATION!

AC May 1992 Valid Until 6/30/92
see page 80 for reference numbers

Name _____
Street _____
City _____ ST. _____ Zip _____
Country _____

A. Which of the following do you now own?
(please check all that apply)
O 1. Amiga 500 O 4. Amiga 2500
O 2. Amiga 1000 O 5. Amiga 3000
O 3. Amiga 2000 O 6. Do not own an Amiga

B. If none of the above, which do you plan to buy soon?
O 7. Amiga 3000 O 9. Amiga 2000
O 8. Amiga 2500 O 10. Amiga 500

C. Which Amiga hardware product do you plan to buy next?
O 11. memory expansion O 15. modem
O 12. hard drive O 16. music tool
O 13. IBM emulators O 17. video product
O 14. printer O 18. accelerator
O 19. other (please specify) _____

D. Which Amiga software product do you plan to buy next?
O 20. C language O 27. spreadsheet
O 21. Forth language O 28. database
O 22. Module-2 language O 29. financial
O 23. Assembly language O 30. video
O 24. BASIC language O 31. graphics
O 25. entertainment O 32. music
O 26. telecommunications O 33. other (please specify) _____

E. How much money are you likely to spend on all Amiga product purchases this year?
O 34. \$0-\$250 O 38. \$1501-\$2000
O 35. \$251-\$500 O 39. \$2001-\$4000
O 36. \$501-\$1000 O 40. over \$4000
O 37. \$1001-\$1500

F. Where do you buy Amiga products?
O 41. local Amiga Dealer O 43. manufacturer
O 42. discount department store O 44. mail order

G. How many times have you purchased an Amiga product after seeing it advertised in AC?
O 45. frequently O 47. once
O 46. occasionally O 48. never

H. How do you obtain your copy of AC monthly?
O 49. subscribe (how long? _____ years)
O 50. buy at local Amiga dealer
O 51. buy at bookstore/newsstand/software store

I. How many others *not* including yourself usually see or read your issue of AC each month?
O 52. other _____
O 53. _____ others, in addition to myself

J. How do you read AC each month? (please check one)
O 54. read virtually everything, cover-to-cover
O 55. scan through pages and read items of interest only
O 56. check table of contents and maybe read 1-2 articles
O 57. read my favorite column(s) only
O 58. read very little of it

K. Have you ever purchased a copy of AC's GUIDE?
O 59. yes—but only once. O 61. no—but plan to soon.
O 60. yes—two or more times. O 62. no—not interested.
O 63. no—use my dealer's copy.

L. Have you ever purchased a copy or subscribed to AC's TECH?
O 59. yes—but only once. O 61. no—but plan to soon.
O 60. yes—two or more times. O 62. no—not interested.
O 63. no—use my dealer's copy.

101	102	103	104	105	221	222	223	224	225
106	107	108	109	110	226	227	228	229	230
111	112	113	114	115	231	232	233	234	235
116	117	118	119	120	236	237	238	239	240
121	122	123	124	125	241	242	243	244	245
126	127	128	129	130	246	247	248	249	250
131	132	133	134	135	251	252	253	254	255
136	137	138	139	140	256	257	258	259	260
141	142	143	144	145	261	262	263	264	265
146	147	148	149	150	266	267	268	269	270
151	152	153	154	155	271	272	273	274	275
156	157	158	159	160	276	277	278	279	280
161	162	163	164	165	281	282	283	284	285
166	167	168	169	170	286	287	288	289	290
171	172	173	174	175	291	292	293	294	295
176	177	178	179	180	296	297	298	299	300
181	182	183	184	185	301	302	303	304	305
186	187	188	189	190	306	307	308	309	310
191	192	193	194	195	311	312	313	314	315
196	197	198	199	200	316	317	318	319	320
201	202	203	204	205	321	322	323	324	325
206	207	208	209	210	326	327	328	329	330
211	212	213	214	215	331	332	333	334	335
216	217	218	219	220	336	337	338	339	340

101

Amazing AMIGA FREE INFORMATION!

AC May 1992 Valid Until 6/30/92
see page 80 for reference numbers

Name _____
Street _____
City _____ ST. _____ Zip _____
Country _____

A. Which of the following do you now own?
(please check all that apply)
O 1. Amiga 500 O 4. Amiga 2500
O 2. Amiga 1000 O 5. Amiga 3000
O 3. Amiga 2000 O 6. Do not own an Amiga

B. If none of the above, which do you plan to buy soon?
O 7. Amiga 3000 O 9. Amiga 2000
O 8. Amiga 2500 O 10. Amiga 500

C. Which Amiga hardware product do you plan to buy next?
O 11. memory expansion O 15. modem
O 12. hard drive O 16. music tool
O 13. IBM emulators O 17. video product
O 14. printer O 18. accelerator
O 19. other (please specify) _____

D. Which Amiga software product do you plan to buy next?
O 20. C language O 27. spreadsheet
O 21. Forth language O 28. database
O 22. Module-2 language O 29. financial
O 23. Assembly language O 30. video
O 24. BASIC language O 31. graphics
O 25. entertainment O 32. music
O 26. telecommunications O 33. other (please specify) _____

E. How much money are you likely to spend on all Amiga product purchases this year?
O 34. \$0-\$250 O 38. \$1501-\$2000
O 35. \$251-\$500 O 39. \$2001-\$4000
O 36. \$501-\$1000 O 40. over \$4000
O 37. \$1001-\$1500

F. Where do you buy Amiga products?
O 41. local Amiga Dealer O 43. manufacturer
O 42. discount department store O 44. mail order

G. How many times have you purchased an Amiga product after seeing it advertised in AC?
O 45. frequently O 47. once
O 46. occasionally O 48. never

H. How do you obtain your copy of AC monthly?
O 49. subscribe (how long? _____ years)
O 50. buy at local Amiga dealer
O 51. buy at bookstore/newsstand/software store

I. How many others *not* including yourself usually see or read your issue of AC each month?
O 52. other _____
O 53. _____ others, in addition to myself

J. How do you read AC each month? (please check one)
O 54. read virtually everything, cover-to-cover
O 55. scan through pages and read items of interest only
O 56. check table of contents and maybe read 1-2 articles
O 57. read my favorite column(s) only
O 58. read very little of it

K. Have you ever purchased a copy of AC's GUIDE?
O 59. yes—but only once. O 61. no—but plan to soon.
O 60. yes—two or more times. O 62. no—not interested.
O 63. no—use my dealer's copy.

L. Have you ever purchased a copy or subscribed to AC's TECH?
O 59. yes—but only once. O 61. no—but plan to soon.
O 60. yes—two or more times. O 62. no—not interested.
O 63. no—use my dealer's copy.

101	102	103	104	105	221	222	223	224	225
106	107	108	109	110	226	227	228	229	230
111	112	113	114	115	231	232	233	234	235
116	117	118	119	120	236	237	238	239	240
121	122	123	124	125	241	242	243	244	245
126	127	128	129	130	246	247	248	249	250
131	132	133	134	135	251	252	253	254	255
136	137	138	139	140	256	257	258	259	260
141	142	143	144	145	261	262	263	264	265
146	147	148	149	150	266	267	268	269	270
151	152	153	154	155	271	272	273	274	275
156	157	158	159	160	276	277	278	279	280
161	162	163	164	165	281	282	283	284	285
166	167	168	169	170	286	287	288	289	290
171	172	173	174	175	291	292	293	294	295
176	177	178	179	180	296	297	298	299	300
181	182	183	184	185	301	302	303	304	305
186	187	188	189	190	306	307	308	309	310
191	192	193	194	195	311	312	313	314	315
196	197	198	199	200	316	317	318	319	320
201	202	203	204	205	321	322	323	324	325
206	207	208	209	210	326	327	328	329	330
211	212	213	214	215	331	332	333	334	335
216	217	218	219	220	336	337	338	339	340

102

YES!

Name _____
Address _____
City _____ State _____ ZIP _____

The "Amazing" AC publications give me 5 GREAT options to save! Please begin my subscription(s) immediately!

Charge my ☐ Visa ☐ MC # _____

Expiration Date _____ Signature _____

Please circle to indicate this is a New Subscription or a Renewal

1 year of AC	12 big issues of Amazing Computing!	US \$27.00 <input type="checkbox"/>
		Canada/Mexico \$34.00 <input type="checkbox"/>
		Foreign Surface \$44.00 <input type="checkbox"/>
1-year SuperSub	AC + AC's GUIDE = 14 issues total!	US \$37.00 <input type="checkbox"/>
		Canada/Mexico \$54.00 <input type="checkbox"/>
		Foreign Surface \$64.00 <input type="checkbox"/>
2 years of AC	24 AC Issues! US only.	US \$41.00 <input type="checkbox"/>
2-year SuperSub	AC + AC's GUIDE = 28 issues total!	US \$59.00 <input type="checkbox"/>
1 year of AC's TECH	4 big issues! The #1 Tech Resource	US \$43.95 <input type="checkbox"/>

Please call for all other Canada/Mexico/foreign surface & Air Mail rates.

Check or money order payments must be in US funds drawn on a US bank; subject to applicable sales tax.





NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 36 FALL RIVER, MA

Postage Will Be Paid By Addressee

Amazing / **AMIGA**
COMPUTING™

P.O. Box 2140
Fall River, MA 02722-9969



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 36 FALL RIVER, MA

Postage Will Be Paid By Addressee

Amazing / **AMIGA**
COMPUTING™

P.O. Box 2140
Fall River, MA 02722-9969



Please return to:

Amazing / **AMIGA**
COMPUTING™
Your Original AMIGA® Monthly Resource

P.O. Box 2140
Fall River, MA 02722-2140

Please place this order form in an envelope
with your check or money order.

AC Order Form!

Name _____

Address _____

City _____ State _____ ZIP _____

Charge my ☐ Visa ☐ MC # _____

Expiration Date _____ Signature _____



PROPER ADDRESS REQUIRED: In order to expedite and guarantee your order, all large Public Domain Software Orders, as well as most Back Issue orders, are shipped by United Parcel Service. UPS requires that all packages be addressed to a street address for correct delivery.
PAYMENTS BY CHECK: All payments made by check or money order must be in US funds drawn on a U.S. bank.

Please circle to indicate this is a **New Subscription** or a **Renewal**

One Year of Amazing!	Save over 43% 12 monthly issues of the number one resource to the Commodore Amiga, Amazing Computing at a savings of over \$20.00 off the newsstand price!	<input type="checkbox"/> US \$27.00 <input type="checkbox"/> Canada/Mexico \$34.00 <input type="checkbox"/> Foreign Surface \$44.00
One Year of AC SuperSub!	Save over 45% 12 monthly issues of Amazing Computing PLUS AC GUIDE/AMIGA 2 Product Guides a year! A savings of over \$30.00 off the newsstand price!	<input type="checkbox"/> US \$37.00 <input type="checkbox"/> Canada/Mexico \$54.00 <input type="checkbox"/> Foreign Surface \$64.00
Two Years of Amazing!	Save over 56% 24 monthly issues of the number one resource to the Commodore Amiga, Amazing Computing at a savings of over \$53.80 off the newsstand price!	<input type="checkbox"/> US \$41.00 (sorry no foreign orders available at this frequency)
Two Years of AC SuperSub!	Save over 56% 24 monthly issues of Amazing Computing PLUS AC GUIDE/AMIGA 4 Product Guides! A savings of over \$75.60 off the newsstand price!	<input type="checkbox"/> US \$59.00 (sorry no foreign orders available at this frequency)
One Year of AC's TECH!	PLUS! AC TECH/AMIGA 4 quarterly issues of the first Amiga technical reference magazine with disk!	<input type="checkbox"/> US \$43.95 <input type="checkbox"/> Canada/Mexico \$47.95 <input type="checkbox"/> Foreign Surface \$51.95

Please circle any additional choices below:

(Domestic and Foreign air mail rates available on request)

Back Issues: \$5.00 each US, \$6.00 each Canada and Mexico, \$7.00 each Foreign Surface.
1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 2.10
2.11 2.12 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10 3.11 3.12 4.1 4.2 4.3 4.4 4.5
4.6 4.7 4.8 4.9 4.10 4.11 4.12 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8 5.9 5.10 5.11 5.12
6.1 6.2 6.3 6.4 6.5 6.6 6.7 6.8 6.9 6.10 6.11 6.12 7.1 7.2 7.3 7.4

Back Issue Volumes: Volume 1-\$19.95* Volume 2, 3, 4, 5, or 6-\$29.95* each
*All volume orders must include postage and handling charges: \$4.00 each set US, \$7.50 each set Canada and Mexico, and \$10.00 each set for foreign surface orders. Air mail rates available.

AC TECH/AMIGA Single issues just \$14.95! V1.1 (PREMIERE), V1.2, V1.3, V1.4, or V2.1
Volume One complete—\$45.00! (All Four issues)

Freely Distributable Software – Subscriber Special (yes, even the new ones!)

1 to 9 disks \$6.00 each
10 to 49 disks \$5.00 each
50 to 99 disks \$4.00 each
100 or more disks \$3.00 each

\$7.00 each for non subscribers (three disk minimum on all foreign orders)

Amazing on Disk: AC#1 ...Source & Listings V3.6 & V3.9 AC#2 ...Source & Listings V4.3 & V4.4
AC#3 ...Source & Listings V4.5 & V4.6 AC#4 ...Source & Listings V4.7 & V4.8
AC#5 ...Source & Listings V4.9 AC#6 ...Source & Listings V4.10 & V4.11
AC#7 ...Source & Listings V4.12 & V5.1 AC#8 ...Source & Listings V5.2 & 5.3
AC#9 ...Source & Listings V5.4 & V5.5 AC#10 ...Source & Listings V5.6 & 5.7
AC#11 ...Source & Listings V5.8, 5.9 & 5.10 AC#12 ...Source & Listings V5.11, 5.12 & 6.1
AC#13 ...Source & Listings V6.2 & 6.3 AC#14 ...Source & Listings V6.4 & 6.5
AC#15 ...Source & Listings V6.6, 6.7, 6.8, & 6.9 AC#16 ...Source & Listings V6.10, 6.11, 6.12, 7.1, 7.2, & 7.3
InNOCKulation Disk: IN#1 ...Virus protection

Please list your Freely Redistributable Software selections below:

AC Disks _____

(numbers 1 through 16)

AMICUS _____

(numbers 1 through 26)

Fred Fish Disks _____

(numbers 1 through 590)

Complete Today, or telephone 1-800-345-3360 now!

You may FAX your order to 1-508-675-6002

Please complete this form and mail with check, money order or credit card information to:

Please allow 4 to 6 weeks for delivery of subscriptions in US.

Subscription: \$ _____

Back Issues: \$ _____

AC's TECH: \$ _____

PDS Disks: \$ _____

Total: \$ _____

(subject to applicable sales tax)

P.i.M. Publications, Inc.
P.O. Box 2140
Fall River, MA 02722-0869

AC Order Form!

Name _____
 Address _____
 City _____ State _____ ZIP _____
 Charge my ☐ Visa ☐ MC # _____
 Expiration Date _____ Signature _____



PROPER ADDRESS REQUIRED: In order to expedite and guarantee your order, all large Public Domain Software Orders, as well as most Back Issue orders, are shipped by United Parcel Service. UPS requires that all packages be addressed to a street address for correct delivery.

PAYMENTS BY CHECK: All payments made by check or money order must be in US funds drawn on a U.S. bank.

Please circle to indicate this is a **New Subscription** or a **Renewal**

One Year of Amazing!	Save over 43% 12 monthly issues of the number one resource to the Commodore Amiga, Amazing Computing at a savings of over \$20.00 off the newsstand price!	<input type="checkbox"/> US \$27.00 <input type="checkbox"/> Canada/Mexico \$34.00 <input type="checkbox"/> Foreign Surface \$44.00
One Year of AC SuperSub!	Save over 45% 12 monthly issues of Amazing Computing PLUS AC GUIDE/AMIGA 2 Product Guides a year! A savings of over \$30.00 off the newsstand price!	<input type="checkbox"/> US \$37.00 <input type="checkbox"/> Canada/Mexico \$54.00 <input type="checkbox"/> Foreign Surface \$64.00
Two Years of Amazing!	Save over 56% 24 monthly issues of the number one resource to the Commodore Amiga, Amazing Computing at a savings of over \$53.80 off the newsstand price!	<input type="checkbox"/> US \$41.00 (sorry no foreign orders available at this frequency)
Two Years of AC SuperSub!	Save over 56% 24 monthly issues of Amazing Computing PLUS AC GUIDE/AMIGA 4 Product Guides! A savings of over \$75.60 off the newsstand price!	<input type="checkbox"/> US \$59.00 (sorry no foreign orders available at this frequency)
One Year of AC's TECH!	PLUS! AC TECH/AMIGA 4 quarterly issues of the first Amiga technical reference magazine with disk!	<input type="checkbox"/> US \$43.95 <input type="checkbox"/> Canada/Mexico \$47.95 <input type="checkbox"/> Foreign Surface \$51.95

Please circle any additional choices below:

(Domestic and Foreign air mail rates available on request)

Back Issues: \$5.00 each US, \$6.00 each Canada and Mexico, \$7.00 each Foreign Surface.
 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 2.10
 2.11 2.12 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 3.10 3.11 3.12 4.1 4.2 4.3 4.4 4.5
 4.6 4.7 4.8 4.9 4.10 4.11 4.12 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8 5.9 5.10 5.11 5.12
 6.1 6.2 6.3 6.4 6.5 6.6 6.7 6.8 6.9 6.10 6.11 6.12 7.1 7.2 7.3 7.4

Back Issue Volumes: Volume 1-\$19.95* Volume 2, 3, 4, 5, or 6-\$29.95* each
 *All volume orders must include postage and handling charges: \$4.00 each set US, \$7.50 each set Canada and Mexico, and \$10.00 each set for foreign surface orders. Air mail rates available.

AC's TECH/AMIGA Single issues just \$14.95! V1.1 (PREMIERE), V1.2, V1.3, V1.4, or V2.1
 Volume One complete—\$45.00! (All Four issues)

Freely Distributable Software – Subscriber Special (yes, even the new ones!)

1 to 9 disks \$6.00 each
 10 to 49 disks \$5.00 each
 50 to 99 disks \$4.00 each
 100 or more disks \$3.00 each

\$7.00 each for non subscribers (three disk minimum on all foreign orders)

Amazing on Disk:
 AC#1 ...Source & Listings V3.8 & V3.9
 AC#3 ...Source & Listings V4.5 & V4.6
 AC#5 ...Source & Listings V4.9
 AC#7 ...Source & Listings V4.12 & V5.1
 AC#9 ...Source & Listings V5.4 & V5.5
 AC#11 ...Source & Listings V5.8, 5.9 & 5.10
 AC#13 ...Source & Listings V6.2 & 6.3
 AC#15 ...Source & Listings V6.6, 6.7, 6.8, & 6.9
 AC#2 ...Source & Listings V4.3 & V4.4
 AC#4 ...Source & Listings V4.7 & V4.8
 AC#6 ...Source & Listings V4.10 & V4.11
 AC#8 ...Source & Listings V5.2 & 5.3
 AC#10 ...Source & Listings V5.6 & 5.7
 AC#12 ...Source & Listings V5.11, 5.12 & 6.1
 AC#14 ...Source & Listings V6.4, & 6.5
 AC#16 ...Source & Listings V6.10, 6.11, 6.12, 7.1, 7.2, & 7.3

InNOCKulation Disk: IN#1 ...Virus protection

Please list your Freely Redistributable Software selections below:

AC Disks _____

(numbers 1 through 16)

AMICUS _____

(numbers 1 through 26)

Fred Fish Disks _____

(numbers 1 through 590)

Complete Today, or telephone 1-800-345-3360 now!

You may FAX your order to 1-508-675-6002

Please complete this form and mail with check, money order or credit card information to:

Please allow 4 to 6 weeks for delivery of subscriptions in US.

Subscription: \$ _____

Back Issues: \$ _____

AC's TECH: \$ _____

PDS Disks: \$ _____

Total: \$ _____

(subject to applicable sales tax)

P.I.M. Publications, Inc.

P.O. Box 2140

Fall River, MA 02722-0869

**040**ACCELERATOR FOR
THE AMIGA 2000**FAST SCSI-2 DMA HARD
DRIVE CONTROLLER****+ 28MHz or 33MHz 68040
ACCELERATOR****+ 64MB HIGH-SPEED 32-bit
RAM EXPANSION****= THE ULTIMATE AMIGA 2000
POWER PERIPHERAL!****FAST SCSI-2 DMA HARD DRIVE CONTROLLER**

for synchronous data transfer speeds of up to 10 megabytes per second with fast SCSI-2 drives...up to 10 times the speed of many Amiga hard drive controllers! Autobooting with full DMA access to Zeus's onboard 32-bit RAM. Zeus supports Synchronous AND Asynchronous SCSI-2 drives, and standard SCSI drives on the same SCSI chain!

28MHz 68040 CPU with built-in floating point processor for lightning-fast acceleration. Zeus is over 23 times the speed of a standard Amiga 2000, and 3 to five times the speed of 25MHz Amiga 3000 systems! Easily upgradeable to 33MHz CPU when available from Motorola.

64MB HIGH-SPEED 32-bit RAM expansion using standard 1MBx8 or 4MBx8 80ns, 60ns, or 40ns fast page or static column SIMM modules (faster performance with faster RAM). Add RAM easily for contiguous configurations of 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 48, 52 or 64MB.

IMPROVED PERFORMANCE with many standard SCSI hard drives. Supports "Rigid Disk Block" standard - just move your existing drive over and you're up and running - no reformatting necessary! Zeus supports full DMA from standard SCSI drives.

FAST and COMPATIBLE with AmigaDOS 1.3, AmigaDOS 2.0, the Video Toaster & Lightwave, Imagine, PageStream, Professional Page, ASDG's ADPro, genlocks, video peripherals, and a wide variety of other Amiga hardware & software products.

ADVANCED HARD DRIVE SOFTWARE for easily installation, partitioning and formatting of nearly all SCSI and SCSI-2 hard drives. Use the easy "automatic" mode, or set up FFS, old file system, or custom system configurations.

68040 SOFTWARE UTILITIES included for optimization and full control of the 040's unique cache modes and high-speed floating-point software library.

FULL 1-YEAR WARRANTY backed by PP&S's commitment to service and customer satisfaction.

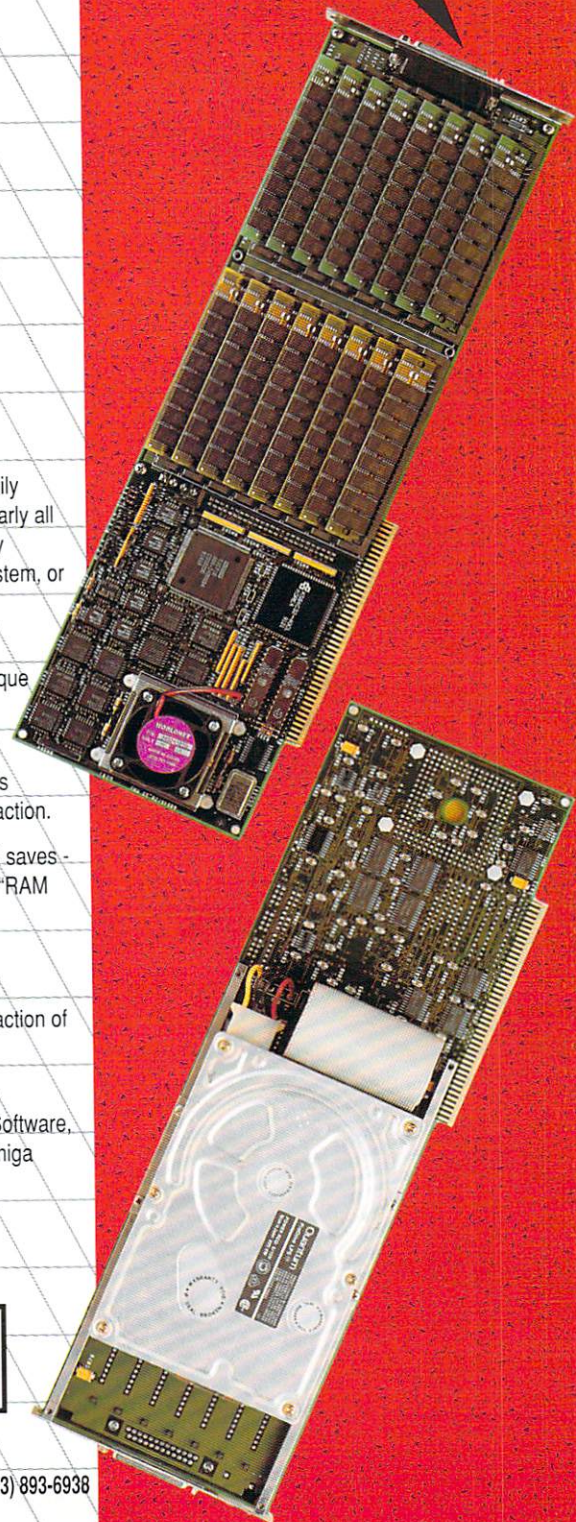
NO MORE WAITING for hard drive loads and saves - Zeus reads and writes data with super-fast "RAM disk" speed!

FOR 3-D, "TOASTER", ANIMATION, VIDEO, DESKTOP PUBLISHING and countless other applications, Zeus gets the job done in a fraction of the time. Zeus is the ultimate productivity workhorse!

Zeus. From Progressive Peripherals & Software, world leader in the fastest, most reliable Amiga accelerator technology.

Attention Progressive 040/2000
Accelerator Users: Call for
upgrade information.

**A COMPLETE
WORKSTATION
ON A
SINGLE CARD!**

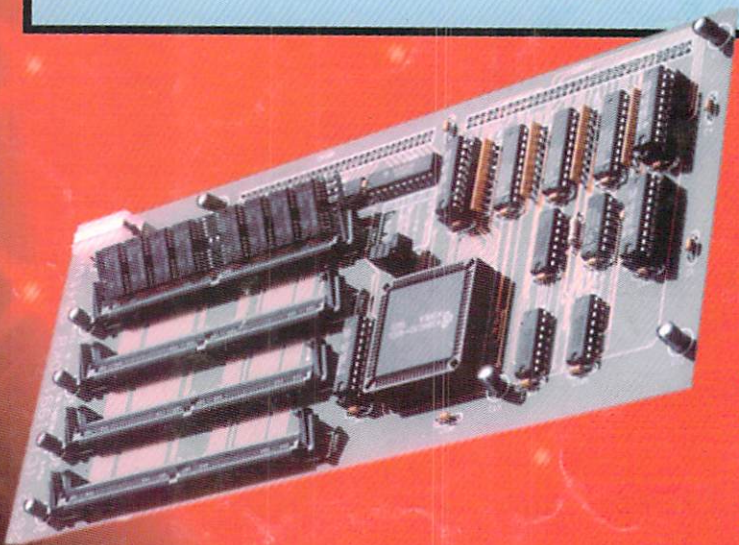


All trademarks acknowledged. Product specifications subject to change without notice.

Progressive Peripherals & Software • 464 Kalamath St. • Denver, CO 80204 • Phone (303) 825-4144 • Fax (303) 893-6938

Circle 135 on Reader Service card.

Power- your Amiga with the Latest Hardware from DKB



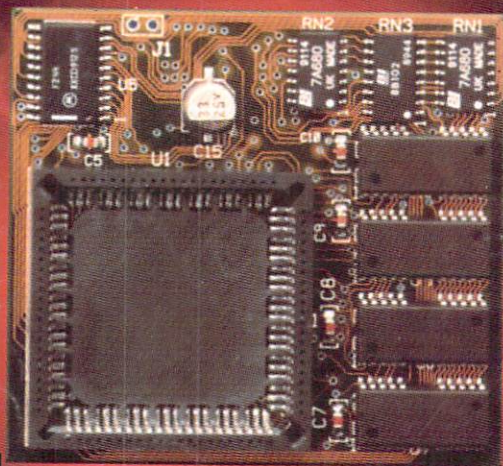
DKB 2632™

32 Bit Memory Expansion for the Amiga® 2500/030

- Now you can go beyond 4 Megabytes of 32 Bit memory.
 - Expandable up to 112 Megabytes of 32 Bit memory.
 - State-of-the-Art design breaks the 32 Megabyte limit that other accelerator cards have and allows the use of different size memory modules in the same bank.
 - The DKB 2632™ has four SIMM sockets for expansion using 32 Bit wide SIMM modules.
 - Using 32 Bit wide SIMM modules enables you to install only one module to add up to 32 Megabytes at a time, modules are available in 1, 2, 4, 8, 16, and 32 Megabytes.
 - Installs onto the CBM A2630 Accelerator card.
 - Does not use autoconfig space, uses 32 Bit address space so that you can still use your AT Bridgeboard with more than 6 Megs of Fast RAM.
 - Excellent for Desktop Video, Desktop Publishing and Multimedia applications.
 - Lets your system multitask much easier.
 - Lets your Amiga® operate faster because of the design of the 32 Bit memory board.
 - Fully compatible with Workbench™ 1.2, 1.3, and 2.0.
 - Compatible with the MegAChip 2000/500™ and MultiStart II™ ROM board.
- Simple installation, no soldering required
Compatible with a wide range of Amiga® peripherals
Full one-year warranty

MegAChip 2000/500™

If you use your Amiga for Desktop Video, 3D Rendering & Animation, Multimedia or Desktop Publishing - Then you need the MegAChip 2000. Doubles the amount of memory accessible to the custom chips. Uses the 2 Megabyte Agnus that's in the Amiga A3000. Greatly enhances Graphics capabilities. Fully compatible with Workbench 1.2, 1.3, 2.0, and the ECS Denise chip. Fully compatible with the Video Toaster and other genlocks and framebuffers. Fully compatible with GVP's and Commodore's 68030 accelerators. Why upgrade to 1Meg of Chip RAM when you can have 2Megs of Chip RAM like the A3000?



DKB Software

50240 W. Pontiac Trail
Wixom, MI 48393
Sales (313) 960-8750
FAX (313) 960-8752

Contact your local dealer or call
for information

Dealer inquiries welcome

DKB 2632 and MegAChip 500/2000 are trademarks of DKB Software, GVP is a trademark of Great Valley Products Inc. Amiga is a registered trademark of Commodore-Amiga, Inc.

Circle 194 on Reader Service card.